

# Program on Dairy Markets and Policy Information Letter

## Implications of the Decision to Terminate USDA's Milk Production Report

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### Background<sup>1</sup>

On 1 March 2013, as required by law, the President's Office of Management and Budget delivered its *Report to the Congress on the Joint Committee Sequestration for Fiscal Year 2013*. The report details, agency-by-agency and line-by-line, the amount of money by which each has to reduce its expenditures by 30 September 2013.<sup>2</sup> The percentage cutback for all non-exempt, non-defense discretionary spending is 5%. The National Agricultural Statistics Service is required to reduce its spending by \$8 million.

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<sup>1</sup> *Although Dr. Novakovic has a part-time appointment with the U.S. Department of Agriculture, through the Office of the Chief Economist, he was in no way or manner involved in the decisions discussed in this Information Letter. He was not privy to any information about the suspension in advance; nor has he discussed the decision with anyone at the U.S. Department of Agriculture in preparing this paper. The views and analysis presented here are entirely his own.*

<sup>2</sup> *The degree of detail or granularity of the OMB cuts varies considerably. "...this report sets forth the percentage and dollar amount of the reductions required for each budget account with sequestrable funding". [emphasis added] Small administrative units within USDA, such as the Office of Communication, are typically a single budget account, but NASS, which is 20 times larger than that Office, is also just one account. In many cases, salaries and personnel expenses are a separate account and program expenses are one or more other lines. In other agencies, there is no separate line for personnel. OMB further explains: "Section 256(k)(2) of BBEDCA requires that sequestration be applied equally at the program, project, and activity level within each budget account."*

On 12 March 2013, the National Agricultural Statistics Service announced that it would be "suspending a number of statistical surveys and reports for the remainder of the fiscal year due to reduced funding caused by sequestration."<sup>3</sup> Among the ten items listed in the NASS notice, the one that affects the largest agricultural sector and the most firms and individuals across every state are the Milk Production reports. NASS will complete the February report and then suspend reporting monthly milk production estimates and the annual summary. Before we begin to think about the implications of this, let's review what is and what is not going to be cut.

The monthly *Milk Production* report contains state and national estimates of milk production, average number of milk cows, and milk production per cow.<sup>4</sup> Monthly estimates are made for the US and 23 milk-producing states, primarily the largest in milk production. For the remaining states, quarterly estimates are published. The quarterly survey also gathers the information that becomes the quarterly state milk replacement cow prices that are published in *Agricultural Prices*. The number of dairy farms, based on state reports of licensed dairy herds, is also reported as an annual number for each state. The annual report, titled *Milk Production, Disposition and Income*,<sup>5</sup> provides more detailed estimates on production by milk composition, the grade of milk, the usage of milk on farms, the amounts of milk marketed commercially, and the average and gross values of milk by grade, fat content and market channel. These estimates are made for each state and on a national level.

Numerous other reports concerning the dairy sector are issued by NASS and other agencies of the USDA. There is one class of variables in particular that will be limited by the failure of NASS to generate a milk production estimate; these are variations of the way in which USDA tries to estimate what might be more popularly thought of as demand or consumption.<sup>6</sup>

The World Agricultural Outlook Board (WAOB) publishes a monthly set of estimates of supply, uses, and prices pertaining to major crops and livestock products.<sup>7</sup> The Milk Supply and Use table provides previous year data, current year estimates, and next year projections for annual, national milk production, imports and available dairy product stocks and the uses made of milk, including exports, government programs, ending stocks, and commercial use. These calculations are done on both a milkfat and nonfat solids basis. Keep in mind that, beyond farm milk production, all the other data reflect aggregates of dairy products. It has a companion table showing estimates of selected farm milk and wholesale dairy product prices. Imports, exports, stocks, and government purchases are separately estimated numbers, but

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<sup>3</sup> [http://www.nass.usda.gov/Newsroom/Notices/03\\_12\\_2013.asp](http://www.nass.usda.gov/Newsroom/Notices/03_12_2013.asp)

<sup>4</sup> <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1103>

<sup>5</sup> <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1105>

<sup>6</sup> *The variables are properly referred to a "disappearance". As the word connotes, the value is calculated as a residual of all known sources of a product less all known uses of a product. Whatever supply remains must have been used somewhere – it disappeared. Based on the nature of the estimated uses, a general understanding of where the unaccounted for product went can be inferred. USDA's Economic Research Service does study and report food intakes or consumption, but there is no regular reporting or estimation of food consumption by USDA.*

<sup>7</sup> <http://www.usda.gov/oce/commodity/wasde/index.htm>

Commercial Use is calculated as a residual of all the rest. Without milk production estimates, it is impossible to calculate commercial use.

The Economic Research Service, which contributes to the WAOB estimation and reporting process, has its own Outlook mission and also publishes dairy sector data that it synthesizes from other sources. Without NASS milk production estimates, it will be unable to calculate its own monthly version of commercial usage, which is called the Commercial Disappearance of milk.<sup>89</sup>

A related calculation is called Domestic Disappearance. This number is reported on the ERS website but originates from the methodology used by the WAOB. Thus, it also begins with the milk production estimate.

The milk production and commercial or domestic disappearance estimates are the two most fundamental variables describing the dairy industry and dairy markets.

The NASS *Dairy Products* report will continue to publish monthly estimates of the production of key dairy products. It also contains data on the unrefrigerated stocks of certain canned and dry dairy products.<sup>10</sup> The *Cold Storage* report will continue to publish month-ending stocks of butter and American-style, Swiss and all other cheeses. The January Cattle inventory will continue to include estimates of the number of dairy cows on 1 January, but the 1 July estimate is suspended. *Agricultural Prices* will continue to report monthly and annual values of farm milk prices.

Dairy reports issued by other agencies will continue, or at least no announcements have yet been made to the contrary. This includes all of the AMS reports related to Federal Milk Marketing Orders,<sup>11</sup> the *National Dairy Product Sales Report*,<sup>12</sup> and *Dairy Market News*.<sup>13</sup> The

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<sup>8</sup> <http://www.ers.usda.gov/data-products/dairy-data.aspx#.UUImUaXKd38>

<sup>9</sup> As mentioned above, one of the variables also reported in *Milk Production, Disposition and Income* is the amount of milk used on the farm. The difference between milk production and farm use is called marketings. This calculation is intended to reflect the fact that not all of the milk collected from cows on farms is sold in the marketplace. Farm use is a very small amount relative to total production, about 0.5%. Moreover, it is not a rigorously estimated number nor one that changes much from year-to-year; hence its absence further complicates the calculation of commercial disappearance, but it is a minor problem.

<sup>10</sup> Evaporated milk, condensed milk, dry buttermilk (the liquid byproduct of butter-making), dry skim milk (for animal feed), nonfat dry milk (for human consumption), and dry whey (the liquid byproduct of cheese-making).

<sup>11</sup>

<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateK&navID=IndustryMarketingandPromotion&leftNav=IndustryMarketingandPromotion&page=MilkMarketingOrderStatistics&description=Milk+Marketing+Order+Statistics&acct=dmktord>

<sup>12</sup>

<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateK&navID=MarketNewsAndTransportationData&leftNav=MarketNewsAndTransportationData&page=DairyProductMandatoryReporting&acct=dpmr>

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<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateL&navID=FindaMarketNewsreportDairyLandingPage&rightNav1=FindaMarketNewsreportDairyLandingPage&topNav=&leftNav=CommodityAreas&page=DairyMarketNews&description=Dairy+Market+News>

*National Dairy Product Sales Report* is the critical report that provides dairy commodity prices that are used to establish regulated minimum Class milk prices under Federal Milk Marketing Orders. This report was previously assembled by NASS, but AMS assumed that responsibility with its first weekly report on 4 April 2012. *Dairy Market News* is a compendium of an amazing variety of data describing dairy markets and collected from a variety of sources.

There is dairy content in retail price data collected by the Bureau of Labor Statistics and the various censuses of manufacturing and retail trade, and so on. And, there is dairy content about trade, employment and other variables collected by other federal agencies, such as the Customs Service or the International Trade Commission.

It also bears noting that some recent wire reports have stated: "Perhaps the highest profile reports on the chopping block are the agency's milk production estimates, which are used to set prices." This is an incorrect conclusion or is at least stated poorly. It seems to be confusing NASS's *Milk Production* report with AMS's *National Dairy Product Sales Report*. Or, it may be somewhat poorly chosen phrasing that was intended to point out the people who make projections of future milk prices rely at least in part on information about milk production.

### **Alternatives to NASS Milk Production Estimates**

There are no substitutes for NASS's milk production estimates.

The volume of farm milk marketed under and priced by Federal Milk Marketing Orders is reported monthly. This also is true, with varying degrees of timeliness, for pricing programs operated under the authority of the State of California and in seven other states. The California data is generally regarded as a complete inventory of milk sales. It doesn't measure milk production, per se, but the amount of milk used on farms can be ignored or estimated as a constant without any great disservice to a production estimate. For the other states, with the possible exception of Nevada and Montana (very minor milk producing states), the marketing data from pricing programs only represents a fraction of the total state farm milk production. For that matter, the total volume of milk in the seven states is quite small, perhaps 2% of the total US milk marketings.

It is known that NASS uses milk marketings information from price regulatory agencies as part of its estimation process, but it would be difficult if not impossible to reconstruct that estimation process by a private agency. It is likely that private firms, industry specialists, and academic specialists will try to approximate a milk production number using marketing order data, but this will be a far less accurate estimate than that which is made by NASS. There are a number of challenges, but there are three big ones. First, marketing orders represent a large fraction but incomplete representation of national milk production. California, the big one, has good data from its own regulatory program, but Idaho, the third largest milk producing state is entirely unregulated. Second, federal orders are based on marketing areas that do not conform to state boundaries. Market Administrators keep track of receipts by state of origin, but these data are not publicly available in a timely manner. It would be a challenge to collect and synthesize marketings by state of origin and even then it would be foolhardy to think that would be a reliable or complete approximation of production by state. Third, while the majority of farm milk remains associated with a specific federal marketing area for many months, if not years, there is always an ebb and flow across marketing areas. An increase in total marketings for the Northeast Order, say, may mean 1) milk production is up in the

Northeastern states, 2) milk that was "de-pooled" earlier has been re-qualified for pool status, or 3) a Northeastern processor found a new source of milk, probably from outside the region, that had been counted elsewhere before.

Another possible alternative is that certain states may elect to continue the milk production report under state funding. The USDA agricultural statistics system consists of the Washington office of NASS but also state and regional offices throughout the US. These offices are typically operated in partnership with a state department of agriculture or similar agency. It is not unusual for states to appropriate additional funding to augment the reporting capability of the national office and the national mandate. Thus, California will have a good estimate of its state production by virtue of its regulatory program, but Wisconsin, for example, may continue its statistical estimation of its milk production under funding provided by the State. These efforts, should they occur, will of course be of some consolation to the dairy industries of any such states, and they will likely become a kind of bellwether for other states, but this is a far cry from a proper national system.

An intriguing possibility would be to simply do some very simple arithmetic based on the promotion assessment farmers are charged to support the National Dairy Board and related qualified agencies. USDA's Agricultural Marketing Service is responsible for monitoring the collection of these funds and how they are used. Payments are typically collected from buyers of farm milk, so tracking down the assessment revenues to individual farms or even aggregating to states is not so simple, but it would certainly be possible to calculate a national number. Buyers are required to remit the total assessments they collect from their farmers to the National Dairy Board, via AMS, in the month following the month when the milk was first marketed (e.g., pay in March for February milk).<sup>14</sup> This typically coincides with normal monthly milk payments. Inasmuch as remittances are in dollars and may be the full 15¢/cwt required by law or minus the (up to) 10¢/cwt that producers may designate to qualified, alternative promotion programs, deducing milk marketings from these data may be a little more than simple arithmetic. Moreover, it is not at all obvious that AMS would have legal latitude to use these payment data for the purpose of estimating marketings. Lastly, doing this is not without cost; so if the whole point was to save staff time, moving the task from NASS to AMS isn't cost free either.

Milk marketing cooperatives market some 80-90% of the milk produced in the United States. Collectively, they have intimate knowledge of milk marketings, if not milk production per se. Theoretically, they could pool their information and create data on the marketings of their farmers, perhaps even by states or regions. Again, this is not quite the same as a proper national system, but more importantly it isn't entirely clear why cooperatives would undertake such an effort even if they could. There would likely be some antitrust rules that would have to be honored but assuming that anticompetitive behavior could be avoided, such an enterprise would not be costless. It is not unusual in foreign countries for cooperatives to be the source of information on milk production and milk prices, but it is rather hard to imagine that US milk marketing cooperatives would have a sufficient self-interest or profit motive to do so in

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<sup>14</sup> *The set of rules, known as the Dairy Promotion and Research Order, are provided here:*  
<http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3004583>

the US. While they surely would continue to keep track of their own numbers, it is most likely they would keep this valuable information to themselves.

## **Implications**

Milk production estimates are the beginning of any analyst's study of future milk prices. Stocks data are used in many commodity markets as the most primary information about supply and demand balances and therefore about expected future prices. This does not work for dairy because milk is not a storable commodity. Stocks information only exists for a handful of storable dairy commodities. This dairy product stocks information is useful and used, but it is not as complete or meaningful as, say, estimates of corn, wheat or soybean carryover. Moreover, without an estimate of usage, it is impossible to know if increased stocks are a) tracking an inventory demand to cover increased use, b) an expected seasonal bulge, or c) because of excess supply (which could reflect different combinations of changes in production relative to changes in consumption or sales).

Milk and dairy product prices will continue to be estimated on a current basis, but the loss of the milk production estimate will hamper price discovery on futures markets and the development of milk price expectations generally. This will certainly have consequences for the nation's dairy industry, but it will also hamper the world industry insofar as the US is the third largest exporting region of the world. By the same token, it will make it more difficult for US exporters to anticipate the availability of their own future supplies and the prices they can anticipate when formulating their own marketing strategies. Ironically, USDA's WAOB will provide estimates of milk production for other countries (sometimes synthesized from the good data provided by other countries but sometimes an original estimate) even as NASS won't be reporting production for our own country.

The previous discussion carefully refers to future or expected prices. It is possible that the loss of reliable, official milk production estimates will impede the efficient discovery of current prices – i.e., we might not get it right, or less right anyway. Price discovery in milk markets is more than a short story, especially for the uninitiated. The key is that the value of farm milk is calculated or inferred from the prices of basic dairy commodities. If the wholesale value of bulk, cheddar cheese increases, the farm price of milk is pushed up. This is certainly true in regulated price systems, but it also is a factor in unregulated milk pricing. So, might the lack of good information about farm milk production hinder the process by which current prices for cheese, whey, butter, and nonfat dry milk are established? It is not that USDA won't be surveying these prices, but rather will the marketplace – buyers and sellers – arrive at the right cash prices as efficiently – as easily and accurately – as they do now? It is hard to make an unassailable argument that this will become a big problem with big consequences, but it is safe to say that the loss of this basic information won't help and may lead to more jerky and larger price movements – volatility – because buyers and sellers have more difficulty getting it right the first time.

## **Notes of Caution**

The announcement by NASS pertains only through September 2013, the remainder of the fiscal year. If there is no increase in funding, no instruction to the contrary, or no change of heart, this could become a lasting outcome. However, it is too early to draw any conclusion.

In 1982, NASS announced in April that it would no longer publish monthly estimates of milk production and that the report would become quarterly. Following a firestorm of industry protest, the monthly reports returned in January 1983.

The current decision implicitly reflects a NASS judgment that estimates of milk production are of less value than the information value of however many other reports it might need to discontinue to achieve the same cost savings. It is certain that industry voices will call that decision into question. Quite likely they will have friends in Congress who will add their voice to the objections. This will not be a regional issue or one that divides producers and processors.

Thus, there are several scenarios under which this decision becomes a footnote in future publications.

NASS (or USDA) could change its mind. There will certainly be industry pressure to do so. To date, the Secretary has been very firm in sticking to controversial decisions on how to implement sequestration, most famously the planned furloughs of meat plant inspectors. Nevertheless, in theory, a change of heart could occur under the current sequestration or as part of a new relaxation of the expenditure cutting rules resulting from a new Congressional Continuing Resolution. This is currently under very active discussion, although at present a compromise between House Republicans and Senate Democrats is not obvious. Barring a restoration of funding, either scenario involving USDA making a different choice obviously means a different ox is gored.

Two, NASS could restore the report in the next fiscal year (October 2013) or some other later date. The reasons for wanting to do so could derive from any of a number of things, but this still begs where the money is supposed to come from. NASS is saying it can't afford to do the report, not that it doesn't want to do it. It is making a cost-benefit calculation, not a value judgment.

It is reasonable to ask, would NASS restore the report if private industry or some gracious benefactor paid the cost of doing it? Possibly, but probably not. The question of user fees has come up on other occasions. Historically NASS has been reluctant to accept payment for an entire report series. They will do special studies under contract, under certain circumstances, and they have considered user fees as a partial payment toward a report's costs, but they have been concerned that accepting user fees to fund entire reports could jeopardize the integrity or the perception of the integrity of a report. This is a risk they defend vigorously.

If a new decision is made or funding is somehow restored, it would not be terribly difficult to construct estimates for lost months if the restoration occurred in the next year or so. It would cost staff time to do so.

## **Summary**

Only one set of reports (the monthly and annual) has been canceled and that cancellation is only for 7 months, at this point, but the set of milk production variables that was picked is arguably the most valuable of the NASS dairy estimates, and the prognosis for general funding restoration is not good.

Other valuable USDA reports related to the dairy sector will continue, and there is no reason to expect any disruption to federal price regulation programs.

Lastly, the primary negative effect of the loss of this report will be a reduced ability to understand market conditions and formulate reasonable price expectations – price discovery and pricing efficiency. This increases uncertainty about milk markets, both current and future. And, it could add to milk price volatility, as buyers and sellers have a harder time getting it right the first time. This does not mean the future will necessarily be worse, but it will be more of a surprise or a mystery. The elimination of the USDA milk production reports, in short, adds risk to what has become a very risky business.