

MONTANA BOARD OF MILK CONTROL
MARKET ADMINISTRATION & INDUSTRY REPORT

FISCAL YEAR 2019
ENDED JUNE 30, 2019

SEPTEMBER 2019

MONTANA DEPARTMENT OF LIVESTOCK
MILK CONTROL BUREAU

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MONTANA BOARD OF MILK CONTROL
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EXECUTIVE SUMMARY

The purpose of the Milk Control Bureau (Bureau) collecting and reporting information on Montana's milk industry is to provide insights and objective quantitative information to the Board of Milk Control (Board) to assist it in monitoring and understanding the industry to support policy development and deliberations.

The Milk Control Act (Act) (Title 81, chapter 23, MCA) requires the Board to supervise, regulate, and control the milk industry. The act requires the Montana Department of Livestock to assist in investigating matters, to bring proceedings to enforce orders of the Board, and to provide staff to assist in technical, enforcement, and regulatory activities.

The Act includes specific provisions enacted to support its policy goals, including:

- mandatory licensing of businesses that produce or distribute milk in Montana;
- assessments to fund the administration and enforcement of the Act;
- establishment of minimum prices to be paid for raw milk according to how the milk is utilized, referencing federal milk classifications;
- authorization for a quota plan and a statewide pooling arrangement;
- governance of fair trade practices, setting forth four specific trade practice prohibitions;
- expression of legislative intent that milk produced outside of state is subject to the Act the instant that the milk is subject to regulation by the state; and
- statement that the Act does not supersede or interfere with federal law regulating interstate commerce.

Significant activity transpired for the Board, the Producer Committee, and the Bureau in fiscal year 2019. The Board held three public meetings and conducted substantive meetings. The terms of Chair W. Scott Mitchell and Vice Chair Jerrold A. Weissman expired in January 2019. Mr. Mitchell and Mr. Weissman continue to serve on the board until they are reappointed or are replaced by new appointees.

August 22, 2018 Meeting When the Board met on August 22, 2018, it voted to adopt new price formulas for Class II and Class III milk that were proposed in July 2018 (MAR 32-18-290). Subsequently, the new price formulas were first applied October 2018. The impact to Montana blend prices has been in line with the estimates published when the rulemaking was proposed, increasing producer prices by approximately 4.1% (\$0.72/cwt) in the months the change was in effect in fiscal year 2019. In amending the Class II and Class III price formulas, the Board addressed one of the most readily actionable recommendations made in the milk market regulation study and addressed concerns over the Class III price formula that came to its attention in August of 2016; this formula was also the subject of an informal petition received from producers in December 2016. The increase in value primarily is derived from the change in the Class III butterfat price formula. Montana's Class II and Class III price formulas were last amended in 1998, when relatively small changes were made to formula structures established in 1967. The new Class III butterfat price formula addressed a characteristic of the former structure of the Class III butterfat price formula that caused the Montana Class III butterfat price

to be substantially lower than Class III butterfat prices in most other regulated markets in the United States and for which the difference between the Montana and federal Class III butterfat price increased as national butter prices increased. The new Montana Class III butterfat price formula is discounted by about 4% relative to the federal Class III butterfat price to reduce Montana processors' risk of market volatility of having an advanced price formula and to encourage expansion of Class III processing in Montana.

January 22, 2019 Meeting When the Board met on January 22, 2019, the major focus of the meeting was considering and receiving input from the industry regarding recommendations of the milk market regulation study. This primarily involved reviewing summarized responses from a survey distributed by the Board to producers and processors to allow those groups to rate the importance of addressing the recommendations made in the study's final report and reviewing a memorandum from the Montana Milk Producers Association (MMPA) dated September 12, 2018, in which five recommendations were made. Collectively, the survey responses (13 responses from producers, none from distributors) prioritized consideration of the study's recommendation to discontinue charging the statewide pool for the cost of transporting unprocessed milk between pool plants. The key recommendation in the memorandum received from MMPA called for the disbandment of the statewide pool structure.

March 8, 2019 Meeting When the Board met on March 8, 2019, the major focus of the meeting was for the Board to learn about and consider taking a position on 2019 House Bill 592 (HB592) to "Revise Milk Pooling Laws." HB592 proposed amending § 81-23-302, MCA, to change the processes required to rescind and establish pooling arrangements and to allow pooling arrangements other than the statewide pooling arrangement. Prior to the meeting, the Board received consent from the Governor's Office to consider taking a position. After considering public comment and information provide by Bureau staff and legal counsel, the Board deliberated and voted to take a position to oppose HB592 as it was drafted and to testify against HB592 as a Board, if allowed by the Governor's Office. Subsequently, the Governor's Office, through the Executive Officer of the Department of Livestock, instructed the Board and staff not to testify at a Senate Agriculture, Livestock, and Irrigation Committee hearing on March 21, 2019. On April 2, 2019, the Committee tabled the bill.

Bureau highlights for fiscal year 2019 include:

- work supporting and implementing the Board's rulemaking that amended the Class II and Class III producer price formulas;
- determining that the 2018 Milk Market Regulation Study's recommendation of using a cascading tiered pricing method to pay producers is administratively feasible;
- advancing budget requests to Governor's Office of Budget and Program Planning that ultimately were approved by the 2019 Legislature;
- performing analysis for the Board on the provisions in § 81-23-302, MCA, pertaining to the statewide pooling arrangement and amendments to the statute proposed in 2019 House Bill 592;
- providing information to the Board and public about the operation of the statewide pooling arrangement over the 2014 – 2018 period;
- improving producers' understanding of pooling calculations;

- launching an online payment system for licensees;
- updating milk control license renewal forms to enable applicants to complete and submit the forms electronically; and
- documenting Bureau management processes to capture institutional knowledge and facilitate successful transitions in the future.

The majority of milk produced in Montana is utilized as fluid milk consumed in Montana. In fiscal year 2019, Montanans consumed an estimated 20.7 million gallons of fluid milk, 80% of which originated from Montana bottling plants using milk supplied by Montana dairy farmers. The next largest use of Montana-origin milk is ice cream type products, of which an estimated 5.4 million gallons was consumed in Montana, 21% of which was manufactured by Montana plants. Approximately 7.4% of Class II fluid cream products (half and half, cream, creamers, and aerosol whip) consumed in Montana originated from Montana plants. Montana plants account for only small percentages of all other dairy products consumed by Montanans.

The Bureau began preparing dairy consumption estimates beginning with fiscal year 2015, and some trends are beginning to emerge. The estimated consumption of Class I fluid milk products in Montana since fiscal year 2015 is relatively flat (-0.34% average annual decrease). The decline is less than the national rate of decline in annual per capita fluid milk consumption, which is roughly 2%, in part because Montana's population is increasing by about 1% per year. The percentage of Class I milk consumed in Montana that originated in Montana plants decreased by an average of 2.2% per year since 2015. USDA Economic Research Service data shows that, for the last decade, consumption of whole milk has trended higher and consumption of reduced fat milk, particularly skim milk, has trended lower. Yogurt consumption decreased by roughly 3.5% in fiscal years 2018 and 2019 after double digit increases in fiscal years 2016 and 2017. In contrast, since 2015, annual consumption of ice cream type products and fluid cream products appears to have increased by roughly 12% and 8%, respectively. Butter consumption increased by approximately 5% and 11% in fiscal years 2018 and 2019, respectively. Tourism may impact some of Montana's dairy consumption trends for products such as butter, fluid cream, and ice cream that are often served by or used as ingredients by food service establishments. The University of Montana Institute for Tourism & Recreation Research estimates that there were 12.37 million nonresident visits in 2018, roughly 5.5% more than in 2015. The average duration of a nonresident visit in 2018 was approximately five nights.

In fiscal year 2019, Montana dairies produced nearly 261 million pounds of milk, down approximately 21.5 million pounds from fiscal year 2018. Montana dairies produced 294 million pounds of milk in 2000. Montana milk production since 2000 has ranged from 261 million to 298 million pounds per year, averaging roughly 286.2 million pounds per year. Milk production has been relatively stable despite a significant decline in the number of dairies (from 144 licensed dairies in fiscal year 2000 to 57 licensed dairies in fiscal year 2019) and a decline in the size of the milking herd (from 13,216 cows in fiscal year 2000 to 10,844 cows in fiscal year 2019). The average number of cows being milked per dairy has increased from 92 cows per dairy in fiscal year 2000 to 190 cows per dairy in fiscal year 2019.

Montana exported nearly 102 million pounds of Class I packaged fluid milk products (*compared to imports of over 31 million milk-equivalent pounds of Class I packaged fluid milk products*) and exported 10.5 million pounds of bulk raw milk (*compared to imports of 25.3 million pounds of bulk raw milk*). A provision in the Act (§ 81-23-302(10), MCA) specifies that distributors with processing facilities in the state shall “*whenever possible, purchase milk from Montana producers for the processing of products to be sold in this state if milk is available from Montana producers at the price set by the board.*” The bulk milk imports are primarily attributed to Meadow Gold – Billings purchasing milk from Wyoming producers, processing the milk, and distributing it to the Wyoming market.

Montana’s pool marketing system enables producers to receive uniform milk prices (for milk of equivalent butterfat content) based on the overall utilization of pool milk received by Montana’s pool handlers. In fiscal year 2019, 55 pool dairies produced and delivered milk with an average butterfat content of 3.81% to three pool handlers and the Montana Correctional Enterprises dairy plant, receiving nearly \$43 million at a weighted average price of \$16.78 per hundredweight (cwt). Compared to fiscal year 2018, the weighted average price increased by over 4.5%; however gross annual receipts decreased by nearly 3.5% due to decreased production. While the weighted average price for pool milk was higher than the previous three years, it was still 15.8% lower than fiscal year 2015, when prices decreased dramatically beginning in January 2015.

The value of pool milk is determined by production and utilization factors; factors related to the sale of surplus milk (milk in excess of pool handler’s Montana Class I and Class II needs); and factors related to transportation charges absorbed by pool producers for shipments of unprocessed pool milk between pool plants.

Utilization Factors

Two major elements of utilization factors are (1) minimum prices for each class of milk and (2) the percentage of butterfat and skim milk (the portion of milk that is not butterfat) utilized in each class of milk. Minimum prices are highest for pool milk utilized as Class I milk consumed in Montana, which accounted for 54.8% of pool production in fiscal year 2019, increasing from 47.1% in fiscal year 2018 due to an increase in utilization of pool milk for Class I milk consumed in Montana and a decrease in pool production. The percentage of pool milk utilized as Class I milk consumed in Montana was 70.4% of pool production in 2000. The decline of Montana Class I utilization corresponds to the decrease in U.S. per capita consumption of fluid milk from 197 pounds per year in 2000 to 146 pounds per year in 2018. Other potential factors influencing this decline include increased availability and possibly market share of ultrapasteurized products (such as organic milk, lactose-free milk, and other specialty or branded products) that are imported into the state; loss of market share to a myriad of new beverage products, including plant-based milk substitutes; and changes in food distribution systems that have led to an increase in out-of-state distributors supplying Montana stores. Because production has been relatively steady and Montana dairy processors do not utilize a large percentage of pool milk for production of Class II and Class III products, the decrease in the percentage of pool milk utilized as Class I milk that is consumed in Montana is being offset by exports of surplus milk.

Adjustments to Utilization Value

Adjustments were made to the utilization value of the milk for transportation charges to ship unprocessed pool milk between pool plants and for surplus milk sales that reduced the pool utilization value by over \$3.1 million (6.79%), or in other terms, \$1.22/cwt of production. In fiscal year 2019, \$516,139 was deducted from the pool skim milk utilization value to transport approximately 26.9 million pounds of unprocessed pool milk between pool plants, primarily to transport unprocessed pool milk to the pool plant in Billings from pool plants in Great Falls and Bozeman. Surplus milk is milk produced in Montana that is not consumed in Montana, excluding sales of cream to out-of-state markets, inventory, shrink, and dumped milk. Surplus sale factors allow for adjustments to the value of pool milk that reflect costs of marketing surplus milk. The majority of surplus milk is sold as Class I packaged milk to out-of-state markets. In fiscal year 2019, the overall adjustment for surplus sales (bulk and Class I packaged milk) totaled \$2,602,036.

MILK MARKET ADMINISTRATION

MILK CONTROL ACT PRIMER

Policy Purpose

The Act provides for the regulation of the milk market in Montana. The Act establishes that regulation of milk is in the public interest because milk is a necessary food article; adequate supply is vital to the public; and health regulations do not provide for adequate supply. The Act specifies that it is a policy of the state to stabilize the marketing of milk and promote, foster, and encourage intelligent production and orderly marketing of milk dairy products; elimination of speculation and waste; and making the distribution between producer and consumer as direct as can be efficiently and economically done.

The Act's policy statement declaration in § 81-23-102, MCA, includes, but is not limited to, the following summarized statements. The policy declaration has not substantively changed since 1939.

- Trade practices in the dairy value chain can threaten the health and welfare of the state's citizens and undermine the sanitary condition and purity of milk.
- Past experience shows that when regulation does not provide for an orderly and profitable marketing of milk, credit status of producers and distributors is adversely affected, resulting in broader economic damage.
- The unique nature of milk lends itself to regulation. Milk is a highly perishable commodity that is easily contaminated. It cannot be stored for a great length of time and must be produced and distributed fresh daily.
- The supply of milk is variable but must be produced on a uniform and even basis and yet accommodate fluctuating demand; therefore, a surplus of milk must be available to guarantee adequate supply to the public. Maintaining this surplus can be expensive; unless regulated, the unavoidable surplus can undermine the milk industry by causing producers to relax their diligence in complying with health and sanitary provisions.
- The natural law of supply and demand has been found inadequate to protect the industry. In the past, the adequacy of supply has been threatened by market conditions and trade practices within the industry.
- The supply and quality of milk are affected negatively unless the producers are guaranteed and ensured a reasonable profit on milk.

Elements of the Milk Control Act

The Act describes its policy purpose and authorizes necessary regulatory infrastructure. The Act provides powers to the Board to supervise, regulate, and control the milk industry. The Act requires the Montana Department of Livestock to provide staff to the Board to assist in investigating matters; bring proceedings to enforce orders of the Board; and assist in technical, enforcement, and regulatory activities.

The Act includes a number of specific provisions. Among these are the following:

- mandatory licensing of businesses that produce or distribute milk in Montana;
- assessments to fund the administration and enforcement of the Act;
- establishment of minimum prices to be paid for raw milk according to how the milk is utilized, referencing federal milk classifications;
- authorization for a quota plan and a statewide pooling arrangement;
- governance of fair trade practices, setting forth four specific trade practice prohibitions against secret rebates and discounts; gifts to secure fluid milk and cream business; offering special prices to customers not available to all customers who purchase under like terms/conditions; and payment (by a distributor to a producer) of a price lower than applicable producer price;
- expression of legislative intent that milk produced outside of the state is subject to the Act the instant that the milk is subject to regulation by the state; and
- statement that the Act does not supersede or interfere with federal law regulating interstate commerce.

BOARD OF MILK CONTROL – ACTIVITY IN FISCAL YEAR 2019

In fiscal year 2019, the Board held three meetings (August 22, 2018; January 22, 2019; and March 8, 2019). The Board adopted new Class II and Class III milk price formulas; conducted a survey to rate the importance of addressing the 2018 Montana Milk Market Regulation Study's seventeen recommendations; appointed two Producer Committee members for the 2018/2019 term to fill vacancies; examined the provisions of § 81-23-302, MCA, pertaining to the establishment and rescinding of the statewide pooling arrangement; and voted to retain the fiscal year 2019 milk control assessment rates for fiscal year 2020.

August 22, 2018 Meeting On August 22, 2018, the Board voted to adopt new price formulas for Class II and Class III milk that were proposed in July 2018 (MAR 32-18-290). The rulemaking went into effect on September 19, 2018, and first impacted prices for milk produced in October 2018. Consequently, the impact to Montana blend prices has been in line with the estimates published when the rulemaking was proposed, increasing producer prices by approximately 4.1% (\$0.72/cwt) in the months the change was in effect in fiscal year 2019.

- The amendments:
 - implement recommendations made in the study, including a recommendation for a transition period for changing the Class III butterfat price formula;
 - replace Class II and Class III price formulas with price formulas that have underlying structures that are the same as, or similar to, markets that regulate prices of a majority portion of milk produced in the United States;
 - address a characteristic of the former structure of the Class III butterfat price formula that caused the Montana Class III butterfat price to be substantially lower than Class III butterfat prices in most other regulated markets in the United States and for which the difference between the Montana Class III

- butterfat price and federal Class III butterfat price increased as national butter prices increased;
- increase producer blend prices for raw milk to be more similar to prices received elsewhere in the United States;
 - provide for an advance price announcement of all Class II and Class III prices to allow distributors to know raw material costs in advance of processing and marketing raw and processed milk products;
 - maintain a negative Montana price differential for the Class III butterfat price to:
 - (1) reduce Montana processors' risk of market volatility of having an advanced Class III butterfat price formula that is based on an earlier and shorter reference price data collection period than what is used for the post-utilization butterfat price that sets the Class III and Class IV butterfat price for much of the United States milk market and
 - (2) encourage expanded Class III processing in Montana.
 - In amending the Class II and Class III price formulas, the Board addressed one of the most readily actionable recommendations made in the study and addressed concerns over the Class III price formula that came to its attention in August of 2016; this formula was the subject of an informal petition received from producers in December 2016.
 - Montana's Class II and Class III price formulas were last amended in 1998, when relatively small changes were made to formula structures established in 1967. The study did not recommend changes in Montana's Class I price formulas at the time it was published.

January 22, 2019 Meeting The major focus of the Board's January 22, 2019, meeting was considering and receiving input from the industry regarding recommendations of the 2018 Montana Milk Market Regulation Study. Following completion of the study in June 2018, the Board conducted a survey to rate the importance of addressing the study's 17 recommendations. Thirteen responses were received from producers, and no responses were received from processors. Collectively, the survey responses prioritized consideration of the study's recommendation to discontinue charging the statewide pool for the cost of transporting unprocessed pool milk between pool plants. The Board also received a memorandum from the MMPA, dated September 12, 2018, in which five recommendations were made by MMPA: disbandment of the statewide pool structure; development of two separate pools based on the distributor receiving the milk; allowing the members of newly developed pools to vote to address issues such as the allocation of the cost of the movement of raw milk between plants; implementation of the study's Cascading Tiered Pricing recommendation after replacing the statewide pool with two distributor pools; and eliminating the surplus sales adjustment for distributors' net export of Class I packaged milk products. The memorandum was supplemented with a document submitted at the January 22, 2019, meeting by MMPA's legal counsel that showed individual MMPA members' consent to be represented by MMPA before the Board. The Board's legal counsel explained the process required by § 81-23-302, MCA, for rescinding the statewide pooling arrangement. Board Chair Mitchell encouraged producers as a collective group to have a discussion regarding potential rescinding of the statewide pooling arrangement to attempt to form consensus because under the law the Board cannot initiate a

rescission of the statewide pooling arrangement. Rescission of the statewide pooling arrangement must be initiated by producers.

March 8, 2019 Meeting When the Board met on March 8, 2019, the major focus of the meeting was for the Board to learn about and consider taking a position on HB592 “Revise Milk Pooling Laws.” Prior to the meeting, the Board received consent from the Governor’s Office to consider taking a position on the bill. HB592 proposed to amend § 81-23-302, MCA, to change the requirements of the processes to rescind and establish pooling arrangements and to allow pooling arrangements other than the statewide pooling arrangement. Bureau staff and legal counsel reviewed HB592 and explained differences between current law and what was proposed in HB592. Testimony was received by the Board from representatives of MMPA that objected to the Board taking a position on the proposed legislation, was supportive of the legislation, and asserted that passage of the bill would not by itself rescind the statewide pooling arrangement and eliminate statewide quota. The Board also received testimony from producers requesting the Board to take a position to oppose the bill; expressing concern about how the bill would increase the likelihood that the statewide pooling arrangement would be rescinded by lowering producer referendum thresholds, ultimately devaluing their investments in statewide quota and making the Montana dairy industry less stable; and supporting the process in current law for rescission of the statewide pooling arrangement, which remained relatively unchanged from when the statewide pooling arrangement was established. After considering public comment and information provided by Bureau staff and legal counsel, the Board deliberated and voted to take a position to oppose HB592 as it was drafted and to testify against HB592 as a Board, if allowed by the Governor’s Office. Subsequently, the Governor’s Office, through the Executive Officer of the Department of Livestock, instructed the Board and staff not to testify at a Senate Agriculture, Livestock, and Irrigation Committee hearing on March 21, 2019. On April 2, 2019, the Committee tabled the bill.

Summary of differences between current law (§ 81-23-302, MCA) and HB592:

- Under current law (nearly identical to the initial law authorizing the establishment and rescinding of a statewide pooling arrangement), procedures to rescind the statewide pooling arrangement are identical to the procedures required to establish a statewide pooling arrangement. The procedures proposed in HB592 to rescind a pooling arrangement were different (fewer, easier requirements) than the procedures proposed to establish a pooling arrangement.
- Rescission
 - The procedures proposed in HB592 to rescind a pooling arrangement would have made it easier to rescind the statewide pooling arrangement than the current law by eliminating the requirement for a hearing by the Board to receive and consider evidence, eliminating the need for petitioners to provide evidence supporting the rescission of the statewide pool, eliminating Board discretion on whether the evidence provided warranted the rescission of the statewide pooling arrangement,

- and lowering the voting threshold required in a referendum of affected parties to approve the rescission of the statewide pooling arrangement.
- The analysis by the Bureau and Board’s legal counsel of HB592 and § 81-23-302, MCA, concluded that if the statewide pooling arrangement was rescinded, the statewide quota plan would be eliminated because § 81-23-302(15)(b), MCA, only allows for a statewide base or quota plan as an (optional) provision of a statewide pooling arrangement.
- If the statewide pooling arrangement is rescinded, § 81-23-302(14), MCA, provides a process for producers to establish a base or quota plan as a method of payment from an individual distributor.
- Establishment
 - The primary differences between current law and procedures proposed in HB592 to establish a pooling arrangement were that HB592 proposed to allow a pooling arrangement to be proposed that was not a statewide pooling arrangement and proposed to eliminate Board discretion on whether evidence provided at a hearing warranted the establishment of a pooling arrangement.

The following table shows information about the Board members and their terms of appointment. Mr. Mitchell and Mr. Weissman continue to serve on the Board until they are reappointed or replaced by new appointments. Appendix A provides additional information about the Board, its interaction with the Montana Department of Livestock, and differentiation of the roles of the department’s Milk Control Bureau and the Milk & Egg Bureau.

Montana Board of Milk Control - Members

Name	Board Position	Residence	Term
W. Scott Mitchell	Chair	Billings	1/2015 – 1/2019
Jerrold A. Weissman	Vice-Chair	Great Falls	1/2015 – 1/2019
Brian C. Beerman	Member	Fairfield	1/2017 – 1/2021
Jim Parker	Member	Fairfield	1/2017 – 1/2021
Erik Somerfeld	Member	Power	1/2017 – 1/2021

The Board of Milk Control can be reached through the contact information listed below.

Milk Control Bureau
 P.O. Box 202003
 Helena, MT 59620-2003
 (406) 444-2875 or LivMilkControl@mt.gov

PRODUCER COMMITTEE – ACTIVITY IN FISCAL YEAR 2019

The Producer Committee is established by ARM 32.24.506. The Committee reviews and approves transfers of quota and is authorized by rule to take over the responsibility from pool handlers of selling surplus milk (milk produced in excess of Montana processors’ Class I and Class II milk needs). Pool handlers may also relinquish the responsibility to market surplus milk to the Committee.

In fiscal year 2019, the Producer Committee met nine times (August 1, 2018; October 9, 2018; October 31, 2018; January 3, 2019; February 5, 2019; March 1, 2019; March 28, 2019; May 1, 2019; and June 26, 2019) to consider and approve 17 quota transfer requests, discuss dairy closures, and receive updates from the Bureau. All meetings were held via conference call.

The following table shows the Committee’s membership in fiscal year 2019, including members appointed to the Committee by the Board at its January 22, 2019, meeting to fill two vacancies that occurred late in 2018.

Producer Committee Members 2018 – 2019 Term:

Producer Name	Committee Position	Pool Plant Receiving Milk	Dairy Name
David Miller	Chair	Darigold - Bozeman	Montana Correctional Enterprises Dairy
Sam Hofer	Vice-Chair	Meadow Gold – Great Falls	Surprise Creek Colony Dairy
Dan Daugherty*	Member (serving as At-Large Committee Member)	Darigold - Bozeman	Triple D Dairy
Tim Huls	Member	Darigold – Bozeman	Huls Dairy
Nelson Kamerman	Member	Darigold - Bozeman	Dairyland Farms
Mark Kleinsasser	Member	Meadow Gold – Billings	Mountain View Colony Dairy
John Waldner**	Member	Meadow Gold – Great Falls	Fairhaven Colony Dairy
Andrew Wipf**	Member	Meadow Gold – Great Falls	Big Sky Colony Dairy
Ruben Wurz*	Member (serving as At-Large Committee Member)	Meadow Gold – Great Falls	Big Stone Colony Dairy

* The board appointed Dan Daugherty to serve out the remainder of Ruben Wurz’s term as the At-Large Committee Member.

** The board appointed John Waldner to serve out the remainder of Andrew Wipf’s term as Meadow Gold – Great Falls Producer Member.

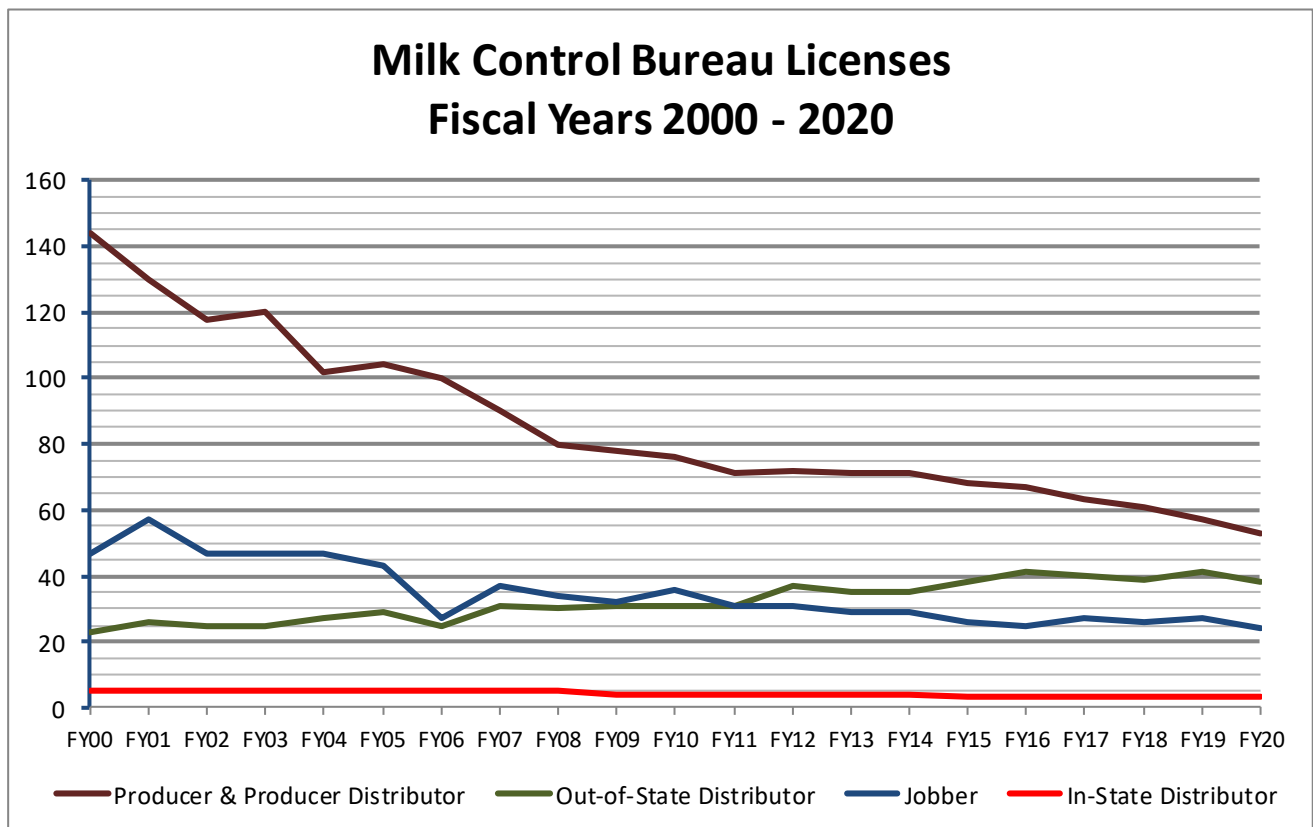
LICENSING SUMMARY

The Bureau issues licenses to producers, producer-distributors, distributors, and jobbers (a class of distributors that purchase and resell milk). The following table shows the number of licenses issued in fiscal year 2019 for each type of business. Licenses are issued on an annual fiscal year basis (July 1 – June 30). By statute, the license fee is two dollars per license, and the fees are deposited into the state general fund.

Licenses Issued for Fiscal Year 2019

License Type	Number of Licenses
Producer	54
Producer-Distributor	3
In-State Distributor	3
Out-of-State Distributor	41
Jobber	27

The following chart shows the number of licenses issued for each license type for fiscal year 2000 through fiscal year 2020, combining the number of producers and producer-distributors. The chart reflects consolidation affecting the milk industry with a significant decline of licensed producers, a decrease in in-state distributors, a decline in the number of jobbers, and an increase in the number of out-of-state distributors. Starting in fiscal year 2015, Montana Correctional Enterprises was licensed as a producer-distributor instead of an in-state distributor. Had the business been licensed as a producer-distributor in prior years, the number of in-state distributor licenses would have been reduced by one. The change of significance in the number of in-state distributors occurred after fiscal year 2008, when Meadow Gold did not renew its in-state distributor license for its Kalispell facility.



ADMINISTRATIVE ASSESSMENTS AND COLLECTION

Administrative assessments are levied on sales of milk by Montana producers, producer-distributors, in-state distributors, and out-of-state distributors to secure funds to administer and enforce the Act. The assessments are classified as special revenue and are the sole source of funding for the Board and Bureau.

As required by statute, the Board considered the fiscal year 2020 assessment rates (at its January 22, 2019, meeting) and took action to retain the same assessment rates it set for fiscal year 2019.

Leaving the assessment rates unchanged, the Bureau projections indicate sufficient funds will be available to administer the Act even though Bureau's cash balance is projected to decrease by nearly \$46,000 during fiscal year 2020.

Assessment Rates by License Type for Fiscal Year 2019 & Fiscal Year 2020

License Type	FY2019 & FY2020 Assessment Rates
Producer	\$0.030/cwt
Distributor	\$0.030/cwt
Producer-Distributor	\$0.060/cwt

SELECTED MILK CONTROL BUREAU HIGHLIGHTS

- The Bureau assisted the Board in the rulemaking process to amend the Class II and Class III milk price formulas in ARM 32.24.480 by drafting (for Board consideration and approval) summary of public comment, Board response to public comment, written findings and conclusions of evidence received by the Board regarding MAR 32-18-290.
- Following the adoption of MAR 32-18-290, the Bureau redesigned the monthly price announcement to implement the new Class II and Class III milk price formulas.
- The Bureau developed models using June 2018 data to examine two alternative methodologies recommended in the 2018 Milk Market Regulation Study for valuing quota and excess milk (including the complex cascading tiered pricing method). The major objective of the project was to determine the administrative feasibility of implementing the cascading tiered pricing method, if the Board were to implement the recommendation. Additional work by Mark Curtis showed that the calculations can be automated.
- The Bureau worked with the Department of Livestock Deputy Executive Officer, in consultation with Board Chair Mitchell, to submit requests to the Governor's Office of Budget and Program Planning for additional budget authority for fiscal year 2019 (2019 House Bill 3) and the 2021 biennium (2019 House Bill 2). The additional requests were included in the Governor's Budget and were approved by the 2019 Legislature.
- The Bureau, with assistance from legal counsel, analyzed the provisions in § 81-23-302, MCA, that prescribe the process for rescinding and establishing the statewide pooling arrangement. The Bureau concluded that, under current law, the statewide quota plan will cease if the statewide pooling arrangement is rescinded.

- The Bureau analyzed HB592, which proposed amendments to § 81-23-302, MCA, that would have changed the process for rescinding the statewide pooling arrangement; would have allowed for the establishment of pooling arrangements other than the statewide pooling arrangement; and would have changed the process for establishing a pooling arrangement. As an informational witness, the Bureau shared its comparison of existing and proposed law through testimony before the House Agriculture Committee on February 26, 2019.
- The Bureau provided information explaining Montana’s statewide pooling arrangement to the Board, including a summary of the pool settlement fund’s transactions and comparison of the statewide pool blend price to individual plant’s blend prices in the 2014 – 2018 period.
- The Bureau worked to improve producers’ understanding of pooling calculations. The Bureau illustrated how the total utilization value of milk processed by Montana plants to produce Class I packaged milk sold to out-of-state markets and bulk cream sold to out-of-state butter plants provided roughly \$4/cwt more value in December 2018 than if plants sold the surplus milk in bulk to out-of-state processors. The Bureau also provided an explanation of why the Class I utilization percentage statistic has been higher since the adoption of the current definition of classes of utilization that went into effect on August 1, 2017.
- In December 2018, the Bureau launched an online payment system for licensees to pay milk control assessments and license fees.
- The Bureau updated milk control license renewal forms for fiscal year 2020, creating a fillable PDF form which enables applicants to complete and submit the forms electronically.
- The Bureau documented management processes to capture institutional knowledge and facilitate successful transitions in the future. Bureau staff began documenting operational processes, with the intent of completing documentation in fiscal year 2020.

ESTIMATE OF MONTANA DAIRY CONSUMPTION

DISCUSSION OF ESTIMATE METHOD & LIMITATIONS

The estimated dairy consumption in Montana is based on combining information from assessments reports submitted by pool handlers, producer-distributors, and out-of-state distributors. The forms submitted by distributors gather different levels of information depending on the type of distributor. Information from pool handlers and producer-distributors focuses on the weight of milk utilized. Information gathered from import reports from in-state and out-of-state distributors focuses on product volume or weight to which milk equivalent factors are applied to determine milk equivalent weight subject to administrative assessments. Because different sources of information are being combined, the information should be viewed as being an estimate. Additionally, because the milk equivalent factors used by the Milk Control Bureau changed in fiscal year 2019 relative to prior years, the estimate of Montana’s estimated dairy consumption by milk equivalent weight is not comparable to prior years for several products.

Pool handlers (Meadow Gold and Darigold) and Montana Correctional Enterprises report how milk received is utilized in monthly reports submitted for pooling calculations. Pool handlers sell some bulk milk to other dairy manufacturers located in Montana. The utilization of this milk is attributed to the class of utilization thought to account for these manufacturers’ utilization.

Producer-distributors report total milk produced and sold in reports submitted with payment of administrative assessments and report how the milk was utilized. In estimating dairy product consumption, product weights are estimated through calculations that use product density and milk equivalent factors.

All distributors report imports of dairy products.

The following tables show estimates of dairy consumption in Montana in terms of product consumed (gallons or pounds of product) and in terms of milk equivalent (weight of milk utilized to manufacture the products consumed, determined on a total milk solids basis). The milk equivalent weight of imported dairy products is calculated by multiplying the units of product imported by the milk equivalent factors shown in the table labeled “Dairy Product Milk Equivalent Factors Used by the Milk Control Bureau.”

FISCAL YEAR 2019: MONTANA ESTIMATED DAIRY CONSUMPTION (BY PRODUCT VOLUME OR WEIGHT)

Class / Type / Product	Products from Montana Plants	% of Product Total from Montana	Products from Out-of-State Plants	% of Product Total from Out-of-State	Total Consumption Estimate
CLASS I (gallons)					
White & Flavored Milk	16,528,950	79.81%	4,180,328	20.19%	20,709,278
Buttermilk			158,275	100.00%	158,275
Eggnog			56,385	100.00%	56,385
CLASS II					
Fluid/Whip (gallons)					
Half and Half	68,159	6.90%	920,174	93.10%	988,333
Whipping Cream	103,325	14.36%	615,985	85.64%	719,310
Creamers			496,593	100.00%	496,593
Aerosol Whip			122,769	100.00%	122,769
Uncultured (gallons)					
Ice Cream / Mix / Ice Milk / Novelties	1,133,287	21.10%	4,238,923	78.90%	5,372,210
Frozen Yogurt / Mix			132,409	100.00%	132,409
Cream for Candy Products	14,493	100.00%			14,493
Cultured (pounds)					
Cottage Cheese	130,005	3.02%	4,175,379	96.98%	4,305,384
Sour Cream & Dressings			6,369,028	100.00%	6,369,028
Yogurt / Kefir	463,212	2.75%	16,374,673	97.25%	16,837,885
CLASS III (pounds)					
Cream Cheese			2,133,407	100.00%	2,133,407
Cheese	65,568	0.19%	34,477,667	99.81%	34,543,235
Butter	6,631	0.07%	8,965,744	99.93%	8,972,375

DAIRY PRODUCT MILK EQUIVALENT FACTORS USED BY THE MILK CONTROL BUREAU

Product	Milk Equivalent (lbs per 1 lb of product)	Milk Equivalent (lbs per 1 gallon of product)
White Milk		6.07 – 7.94
Flavored Milk		6.18 – 8.13
Buttermilk		6.87
Eggnog		9.82
Half and Half (10.5% - 18% milkfat)		12.53
Creamers		12.53
Light Cream (18% - 30% milkfat)		17.60
Light Whipping Cream (30 – 36% milkfat)		25.50
Heavy Whipping Cream (>36% milkfat)		29.41
Aerosol Whip		17.44
Ice Cream		7.23
Ice Milk / Sherbet		0.96
Frozen Yogurt		5.40
Frozen Dairy Novelties		6.05
Ice Cream Mix		14.75
Shak Mix / Yogurt Mix		11.80
Cottage Cheese	1.61	
Cottage Cheese (low fat or no fat)	1.41	
Dry Curd Cottage Cheese	1.61	
Sour Cream (and similar dips and dressings)	1.91	
Non-fat Sour Cream	0.51	
Yogurt / Kefir	0.92	
Butter	6.51	
Cream Cheese	3.61	
Hard Cheese	4.90	

Raw milk is composed of approximately 87.55% water and 12.45% milk solids by weight (3.68% butterfat + 8.77% milk solids not fat). Milk solids not fat includes protein, lactose, and minerals. The amount of butterfat and milk solids not fat used to manufacture different products varies. Lowfat dairy products have less milk solids content than comparable full-fat dairy products. Butter has a high amount of milk solids per pound of product because 81% of its weight is milk solids, nearly all of which is butterfat.

FISCAL YEAR 2019: MONTANA ESTIMATED DAIRY CONSUMPTION – BY MILK EQUIVALENT WEIGHT

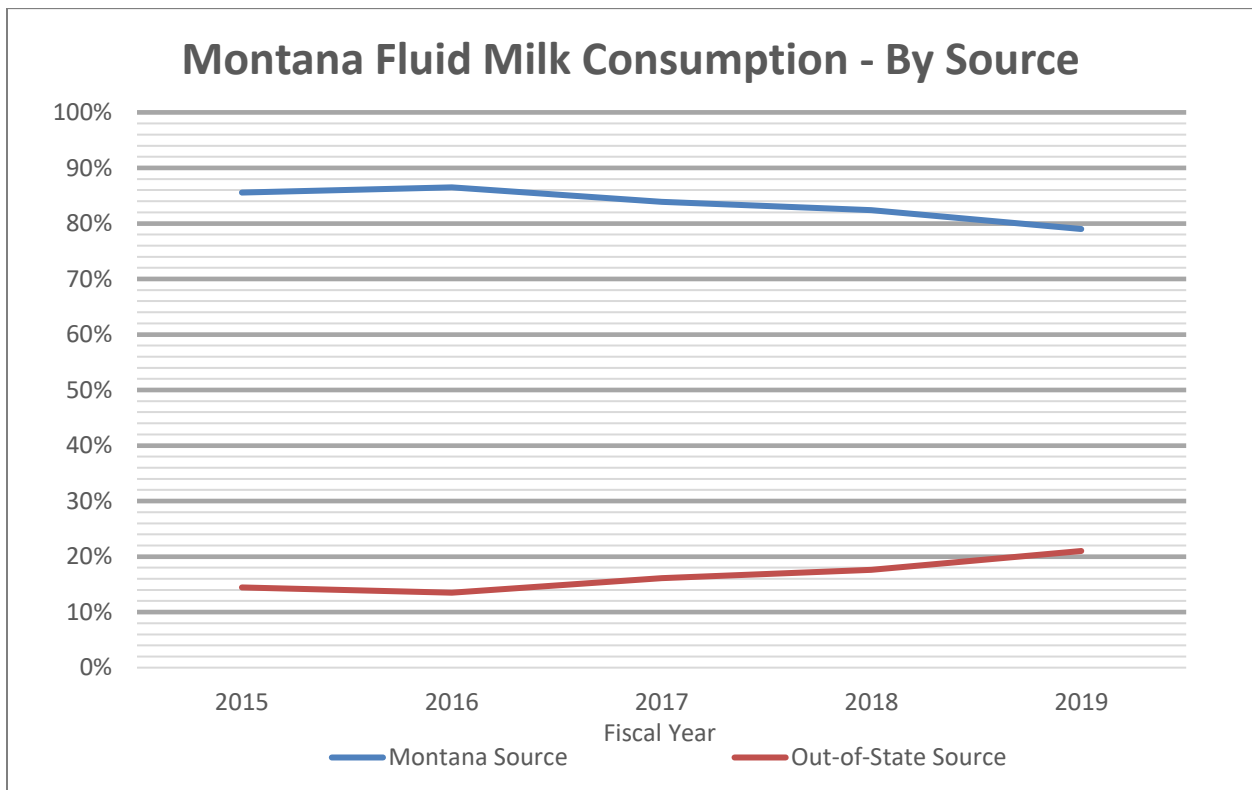
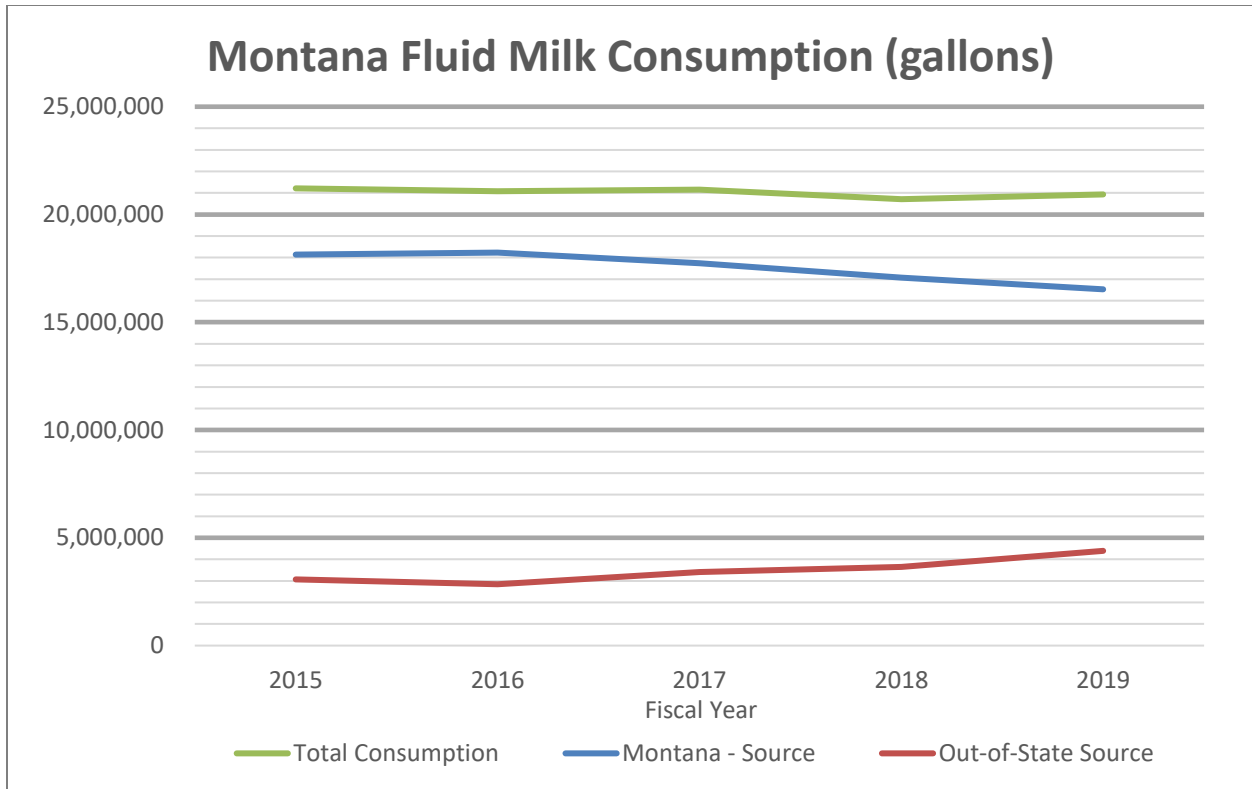
Class / Type / Product	Products from Montana Plants <i>(lbs milk equivalent)</i>	Products from Out-of-State Plants <i>(lbs milk equivalent)</i>	Total Consumption Estimate <i>(lbs milk equivalent)</i>
CLASS I			
White & Flavored Milk	142,515,717	29,434,459	171,950,176
Buttermilk		1,087,350	1,087,350
Eggnog		<u>553,696</u>	<u>553,696</u>
TOTAL CLASS I	142,515,717	31,075,505	173,591,222
CLASS II			
Fluid/Whip			
Half and Half	582,761	11,529,778	12,112,539
Whipping Cream	864,828	17,208,542	18,073,370
Creamers		6,222,304	6,222,304
Aerosol Whip		<u>2,141,087</u>	<u>2,141,087</u>
Subtotal	1,447,589	37,101,711	38,549,300
Uncultured			
Ice Cream / Mix / Ice Milk / Novelties	8,193,668	34,694,858	42,888,526
Frozen Yogurt / Mix		1,421,964	1,421,964
Candy Products	<u>121,304</u>		<u>121,304</u>
Subtotal	8,314,972	36,116,822	44,431,794
Cultured			
Cottage Cheese	209,308	6,467,985	6,677,293
Sour Cream & Dressings		11,277,475	11,277,475
Yogurt / Kefir	<u>426,155</u>	<u>15,064,699</u>	<u>15,490,854</u>
Subtotal	635,463	32,810,159	33,445,622
TOTAL CLASS II	10,398,024	106,028,692	116,426,716
CLASS III			
Cream Cheese		7,701,601	7,701,601
Cheese	649,119	168,940,571	169,589,690
Butter	<u>13,262</u>	<u>58,366,995</u>	<u>58,380,257</u>
TOTAL CLASS III	662,381	235,009,167	235,671,548

SUMMARY

The majority of milk produced in Montana is utilized for fluid milk consumed in Montana. In fiscal year 2019, an estimated 20.7 million gallons of fluid milk was consumed in Montana, 80% of which originated from Montana bottling plants using milk supplied by Montana dairy farmers. The next largest use of Montana-origin milk is for ice cream type products. An estimated 5.4 million gallons of ice cream type products were consumed in Montana, 21% of which was manufactured by Montana plants. Approximately 7.4% of Class II fluid cream products (half and half, cream, creamers, and aerosol whip) that were consumed in Montana originated from Montana plants. Montana plants account for only small percentages of all other dairy products consumed by Montanans. Production of these products outside of Montana is largely a function of industry dynamics that relate to scales of efficiency in manufacturing and placement of manufacturing facilities near areas with greater population or areas with larger supplies of milk.

The bureau began preparing dairy consumption estimates beginning with fiscal year 2015, and some trends are beginning to emerge. The estimated consumption of Class I fluid milk products in Montana since fiscal year 2015 is relatively flat (-0.34% average annual decrease). The decline is less than the national rate of decline in annual per capita fluid milk consumption, which is roughly 2%. Since 2015, the percentage of Class I milk consumed in Montana that originated in Montana plants decreased by an average of 2.2% per year, decreasing by 3.8% and 3.2% in fiscal years 2018 and 2019, respectively. USDA Economic Research Service data shows that, for the last decade, consumption of whole milk has trended higher and consumption of reduced fat milk, particularly skim milk, has trended lower. Estimates indicate yogurt consumption has decreased by roughly 3.5% in fiscal years 2018 and 2019 after double digit increases in fiscal years 2016 and 2017. In contrast, estimates indicate that consumption of ice cream type products has increased by nearly 12% annually since fiscal year 2015. *(The authors note that estimating consumption of ice cream type products is more difficult and not as straight forward as estimating fluid milk consumption.)* Estimates indicate that consumption of fluid cream type products has increased by over 8% annually since fiscal year 2015. The estimated butter consumption increased by approximately 5% and 11% in fiscal years 2018 and 2019, respectively.

The U.S. Census Bureau estimates that Montana's population in 2018 was just over 1.06 million. According to worldpopulationreview.com (accessed on September 10, 2019), Montana experienced modest population growth of approximately 1% per year from 2014 to 2018. Tourism may impact some of Montana's dairy consumption trends for products such as butter, fluid cream, and ice cream that food service establishments serve or use as ingredients. The University of Montana Institute for Tourism & Recreation Research estimated that there were 12.37 million nonresident visits in 2018, roughly 5.5% more than in 2015. The average duration of a visit in 2018 was 4.6 nights according to the University of Montana Institute for Tourism & Recreation Research's *2018 Nonresident Visitation, Expenditures & Economic Impact Estimates* report for Montana. The institute estimates that there will be 13.38 million nonresident visits in 2019, an increase of 8% from 2018.



MINIMUM PRODUCER PRICES

CLASSIFIED PRICING

To aid in the orderly marketing of milk, many jurisdictions in the United States, starting in the 1930s, established price regulation systems that set prices for milk purchased from dairies based upon how the buyer (a processor) utilizes the milk. Currently in the United States, over 85% of all milk sold by dairy farms is subject to federal or state price regulation that uses classified pricing. Classified pricing systems have been adopted in a number of other western countries as well. Such systems help prevent situations in which producers are pitted against each other by processors to undercut prices, which can lead to a chaotic marketplace in which the supply and sanitary condition of milk becomes imperiled. Montana's milk classification system is similar to federal (USDA) milk classification. Class I utilization includes fluid milk products, including buttermilk and eggnog. Class II utilization includes fluid cream products, ice cream type products, cottage cheese, sour cream, and yogurt. Class III utilization includes cheese and cream cheese. Class IV utilization includes butter and dried milk. Montana law allows the Board of Milk Control to combine milk classes, and Montana Class III utilization includes both Class III and Class IV utilizations. In Montana, Class III utilization also includes bulk milk inventory, dumped milk, and up to 2% shrinkage, with any shrinkage in excess of 2% of pool receipts being allocated to Class I utilization. Shrinkage is a term that describes milk received that is not accounted for by utilization or inventory. Shrink is unavoidable and typically is caused by processing losses and incidental waste.

PRICE FORMULAS

The Milk Control Act requires that the Board of Milk Control establish formulas to calculate minimum prices to be paid for milk based upon classified utilization.

Montana Class I

Montana's Class I milk price formula adds a \$2.55/cwt differential to the USDA Federal Order Base Class I price published in the USDA Agricultural Marketing Service's Announcement of Advanced Prices and Pricing Factors. The Montana Class I butterfat price is the Federal Order Advanced Butterfat Pricing Factor (from the same USDA price announcement) plus \$0.0255/lb. The USDA Federal Milk Marketing Administration announces these prices in advance of the month of production. The federal announcement is generally made on the Wednesday following the first two full weeks of the month. The change in the federal Class I milk price formula (that went into effect beginning with May 2019 utilization) did not necessitate a change in the Montana Class I milk price formula because the Montana formula references the federal base Class I price, which still exists under the new federal Class I milk price formula. The formulas used to calculate Montana Class I prices are shown in the following table, using October 2018 as an example.

Montana Class I Price Computations per ARM 32.24.480(2) for October 2018	
Federal Order Base Class I Price for Milk Testing 3.5% Butterfat (\$/cwt)	\$16.33
Plus: Montana Differential (\$/cwt)	\$2.55
Montana Class I Milk Price for Milk Testing 3.5% Butterfat (\$/cwt)	\$18.88
Federal Order Advanced Butterfat Pricing Factor (\$/lb)	\$2.5393
Plus: Montana Differential (\$/lb)	\$0.0255
Montana Class I Butterfat Price (\$/lb)	\$2.5648
Value of Montana Class I Butterfat at 3.5 lbs	\$8.97680
Value of Montana Class I Skim Milk at 96.5 lbs	\$9.90320
Montana Class I Milk Price for Milk Testing 3.5% Butterfat (\$/cwt)	\$18.88000

Montana Class II & Class III (July – September 2018)

For the months of July – September 2018, Montana’s Class II and Class III milk prices were based on the last prices (market prices) reported prior to the 20th of the month in the National Dairy Market News Weekly Report published by USDA Agricultural Marketing Service. The report is generally published on the Friday of the second full week of each month. The administrative rules specified the use of the spray process nonfat dry milk solids price for the Central States area. The National Dairy Market News Weekly Report reports a low/high price range for nonfat dry milk; so, an average was taken and used in the Montana Class II and Class III price formulas. The administrative rules specified the use of the Chicago area Grade AA butter price; this price is reported in the National Dairy Market News Weekly Report in a table labeled “CME Group Cash Trading.” The formulas used to calculate Montana Class II and Class III prices prior to October 2018 are shown in the following tables, using September 2018 as an example.

Calculation of Montana Class II Announced Prices per ARM 32.24.480(3) <i>in effect</i> for September 2018		
Average spray process dry milk solids USDA Central Region Nonfat Dry Milk (\$/lb)	\$0.8175	
Plus: Freight Adjustment (\$/lb)	\$0.0125	
Subtotal (\$/lb)	\$0.8300	
multiplied by 8.2 (lbs nonfat dry solids per cwt milk)		\$6.81
Last quote for Grade AA butter Chicago Area Grade AA Butter Price (\$/lb)	\$2.3050	
Less: a differential of \$0.0895	(\$0.0895)	
Subtotal (\$/lb)	\$2.2155	
multiplied by 4.2 (lbs butter per cwt milk)		\$9.31
Nonfat Dry Solids Price Component + Butter Price Component (\$/cwt milk)	\$16.11	
Less: Make Allowance of 8.5% (\$/cwt)	(\$1.37)	
Montana Class II Price for Milk Testing 3.5% Butterfat (\$/cwt)		<u>\$14.74</u>
Last quote for Grade AA butter Chicago Area Grade AA Butter Price (\$/lb)	\$2.3050	
Less: a differential of \$0.0895	(\$0.0895)	
Subtotal (\$/lb)	\$2.2155	
multiplied by 0.111		\$0.2459
rounded to the nearest \$0.005 (\$/0.1% butterfat content)		\$0.245
multiplied by 10 (\$/% butterfat content = \$/lb butterfat)		
Montana Class II Butterfat Price Per Pound (\$/lb)		<u>\$2.450</u>

Calculation of Montana Class III Announced Prices per ARM 32.24.480(4) <i>in effect</i> for September 2018	
Last quote for Grade AA butter Chicago Area Grade AA Butter Price (\$/lb)	\$2.3050
Less: a differential of \$0.0895	(\$0.0895)
Subtotal (\$/lb)	\$2.2155
Less: 10%	(\$0.2216)
Montana Class III Butterfat Price Per Pound (\$/lb)	<u>\$1.9940</u>
Average spray process dry milk solids USDA Central Region Nonfat Dry Milk (\$/lb)	\$0.8175
Plus: Freight Adjustment (\$/lb)	\$0.0125
Subtotal (\$/lb)	\$0.8300
multiplied by 8.2 (lbs nonfat dry solids per cwt milk)	\$6.81
Less: 17%	(\$1.16)
Nonfat Dry Solids Price Component (\$/cwt of skim milk)	\$5.65
Class III Skim Milk Price Per Pound (\$/lb)	\$0.0565
Value of Montana Class III Butterfat at 3.5 lbs	\$6.98
Value of Montana Class III Skim Milk at 96.5 lbs	\$5.45
Montana Class III Price for Milk Testing 3.5% Butterfat (\$/cwt)	<u>\$12.43</u>

Montana Class II & Class III (October 2018 – June 2019)

The Montana Class II and Class III price formulas (that went into effect beginning with October 2018 utilization) reference the prices listed below that are published in the USDA Agricultural Marketing Service's Announcement of Advanced Prices and Pricing Factors.

- Class II Skim Milk Price (converted to dollars per pound of skim milk)
- Advanced Class III Skim Milk Pricing Factor (converted to dollars per pound of skim milk)
- Advanced Class IV Skim Milk Pricing Factor (converted to dollars per pound of skim milk)
- Advanced Butterfat Pricing Factor

These prices are determined by USDA using federally established formulas that rely upon USDA-calculated weighted average prices of butter, nonfat dry milk, cheese, and whey for the first full two weeks of the month prior to the month to which the price announcement applies. Prices and sales volumes of these products are mandatorily reported to USDA by the United States dairy industry.

The following tables illustrate the application of the Montana Class II and Class III price formulas for October 2018, when the amendments to ARM 32.24.480 were first applied.

Calculation of Montana Class II Announced Prices per ARM 32.24.480(3) <i>in effect</i> for October 2018	
Advanced Butterfat Pricing Factor (\$/lb)	\$2.5393
Plus: \$0.007/lb (\$/lb)	\$0.0070
Montana Class II Butterfat Price (\$/lb)	<u>\$2.5463</u>
Montana Class II Skim Milk Price (\$/lb) <i>federal Class II Skim Milk Price converted to units of dollars per pound of skim milk</i>	<u>\$0.0681</u>
Value of Montana Class II Butterfat at 3.5 lbs	\$8.91205
Value of Montana Class II Skim Milk at 96.5 lbs	\$6.57165
Montana Class II Milk Price for Milk Testing 3.5% Butterfat (\$/cwt)	<u>\$15.48370</u>

Calculation of Montana Class III Announced Prices per ARM 32.24.480(4) <i>in effect</i> for October 2018	
Advanced Butterfat Pricing Factor (\$/lb)	\$2.5393
Less: Montana Class III Butterfat Price Differential (\$/lb)	(\$0.2000)
Montana Class III Butterfat Price (\$/lb)	<u>\$2.3393</u>
Federal Class III Skim Milk Pricing Factor (\$/cwt)	\$7.71
Federal Class IV Skim Milk Pricing Factor (\$/cwt)	\$6.11
Montana Class III Skim Milk Price (\$/lb): <i>lower of Class III or Class IV Skim Milk Pricing Factor, converted to units of dollars per pound of skim milk</i>	<u>\$0.0611</u>
Value of Montana Class III Butterfat at 3.5 lbs	\$8.18755
Value of Montana Class III Skim Milk at 96.5 lbs	\$5.89615
Montana Class III Milk Price for Milk Testing 3.5% Butterfat (\$/cwt)	<u>\$14.08370</u>

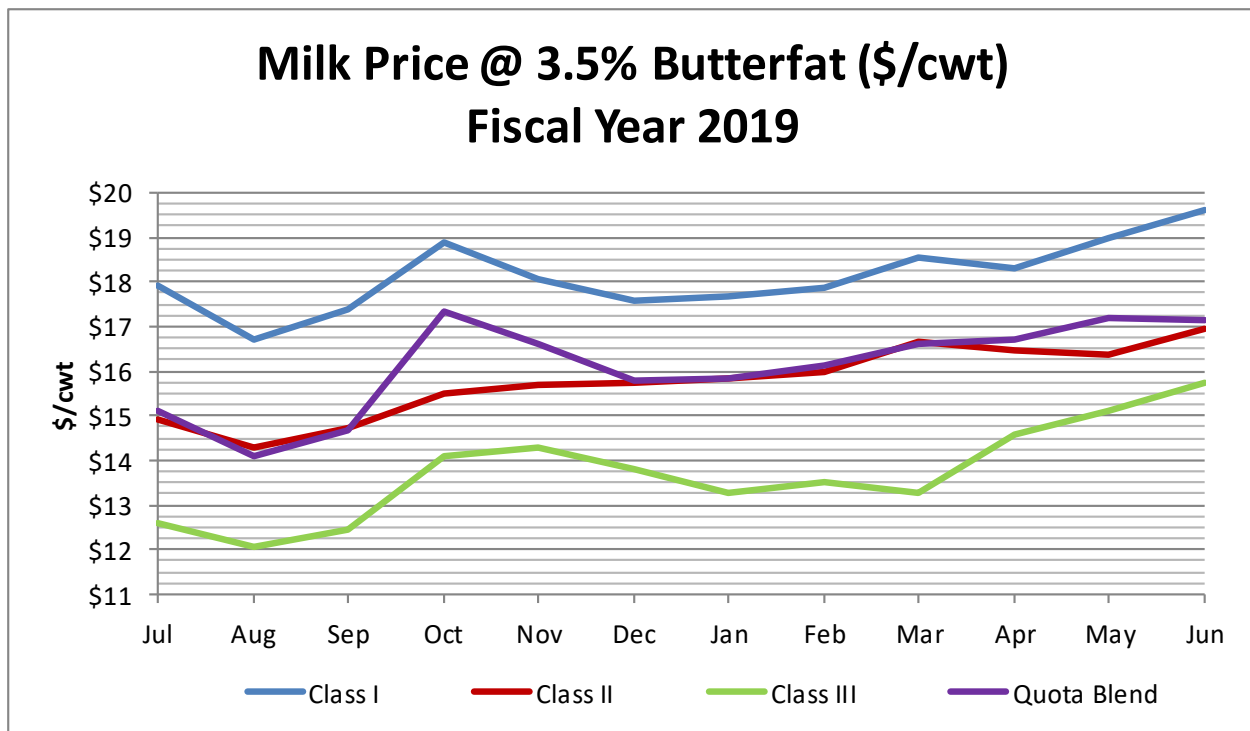
The Montana Class III Butterfat Price formula subtracts the Montana Class III Butterfat Price Differential from the Advanced Butterfat Pricing Factor. When the Montana Class III price formulas were amended, the Montana Class III Butterfat Price Differential amount was set to phase-in the price increase (relative to the Class III butterfat price formula in effect prior to October 1, 2018). The Montana Class III Butterfat Price Differential is as follows for the corresponding dates:

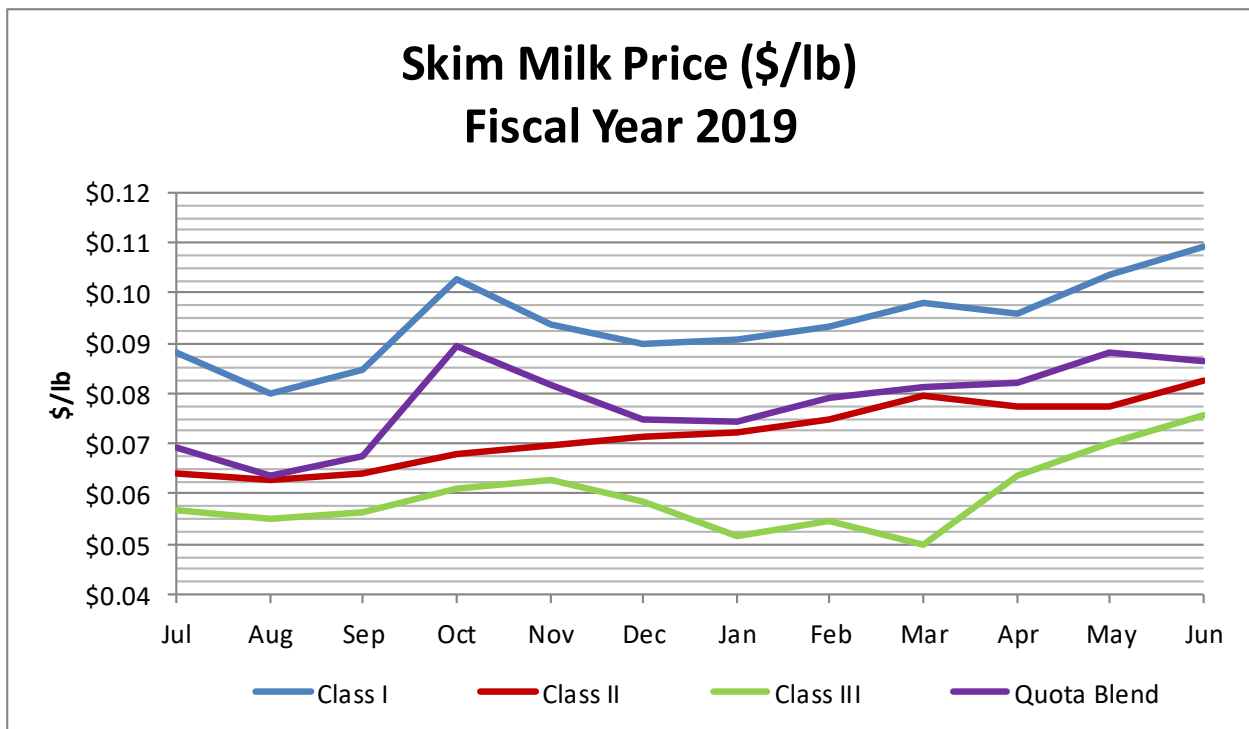
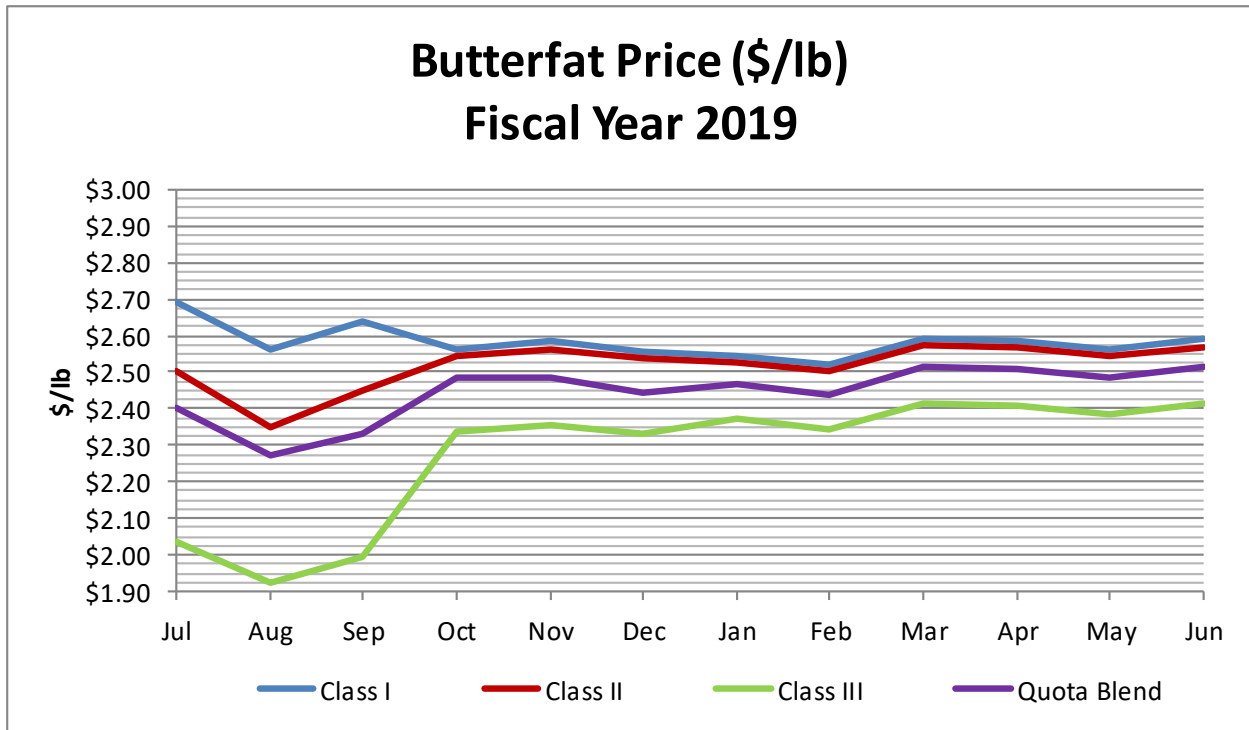
- \$0.20/lb of butterfat for Class III butterfat utilized before January 1, 2019
- \$0.15/lb of butterfat for Class III butterfat utilized from January 1, 2019 - June 30, 2019
- \$0.10/lb of butterfat for Class III butterfat utilized after June 30, 2019

ANNOUNCED MINIMUM PRICES IN FISCAL YEAR 2019

Cows often produce milk that has 3.5% - 4% butterfat content. The dairy industry often uses a reference price for milk having 3.5% butterfat content. One hundred pounds of milk (a hundredweight, abbreviated “cwt”) with 3.5% butterfat content consists of 3.5 pounds of butterfat and 96.5 pounds of skim milk. Skim milk consists of water (over 90% of skim milk weight) and solids that are not fat (lactose, protein, and minerals). In Montana, an individual producer is paid on the actual butterfat and skim milk produced by the dairy’s herd for each month of production.

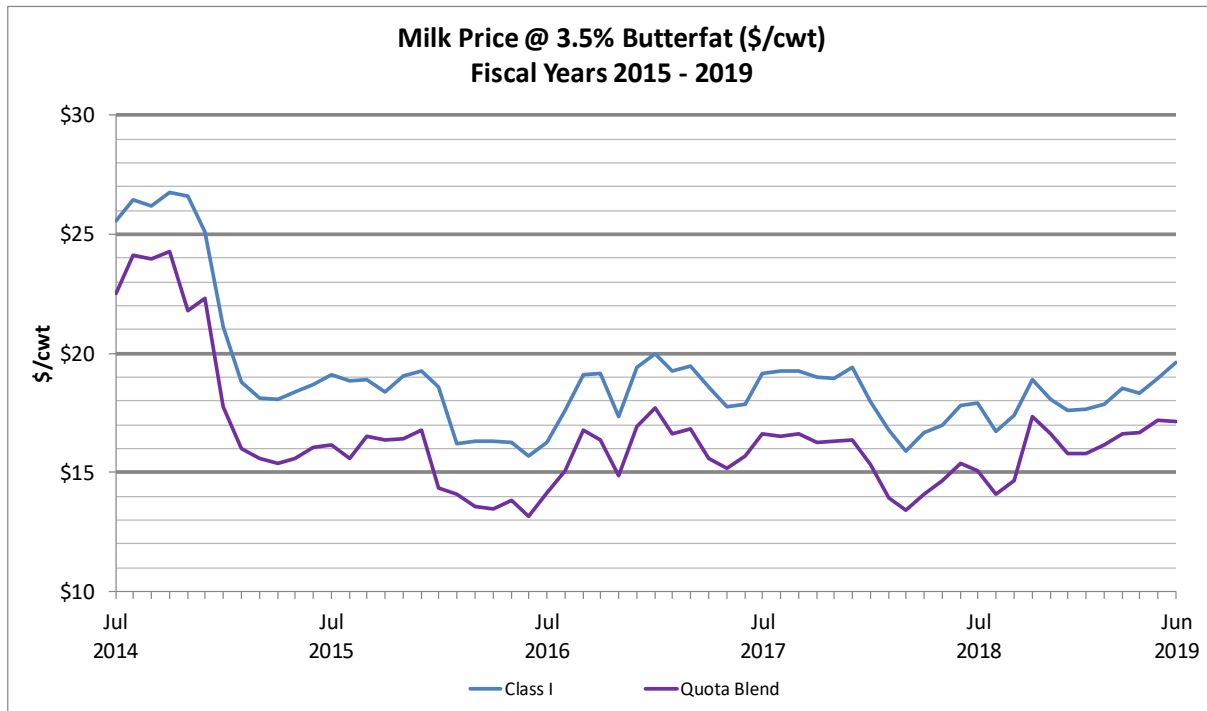
The charts below show announced minimum prices for months in fiscal year 2019 (July 2018 – June 2019) along with the calculated quota price based on actual milk utilization. Milk prices trended higher in fiscal year 2019 because of increased skim milk prices. Butterfat prices were steady, except for the notable increase in Class III prices beginning in October 2018 due to the change in the Class III butterfat price formula. The price formula change decreased the spread between Class I and Class III butterfat prices. In fiscal year 2019, roughly equal amounts of butterfat produced by Montana dairies were utilized in Class I and Class III.

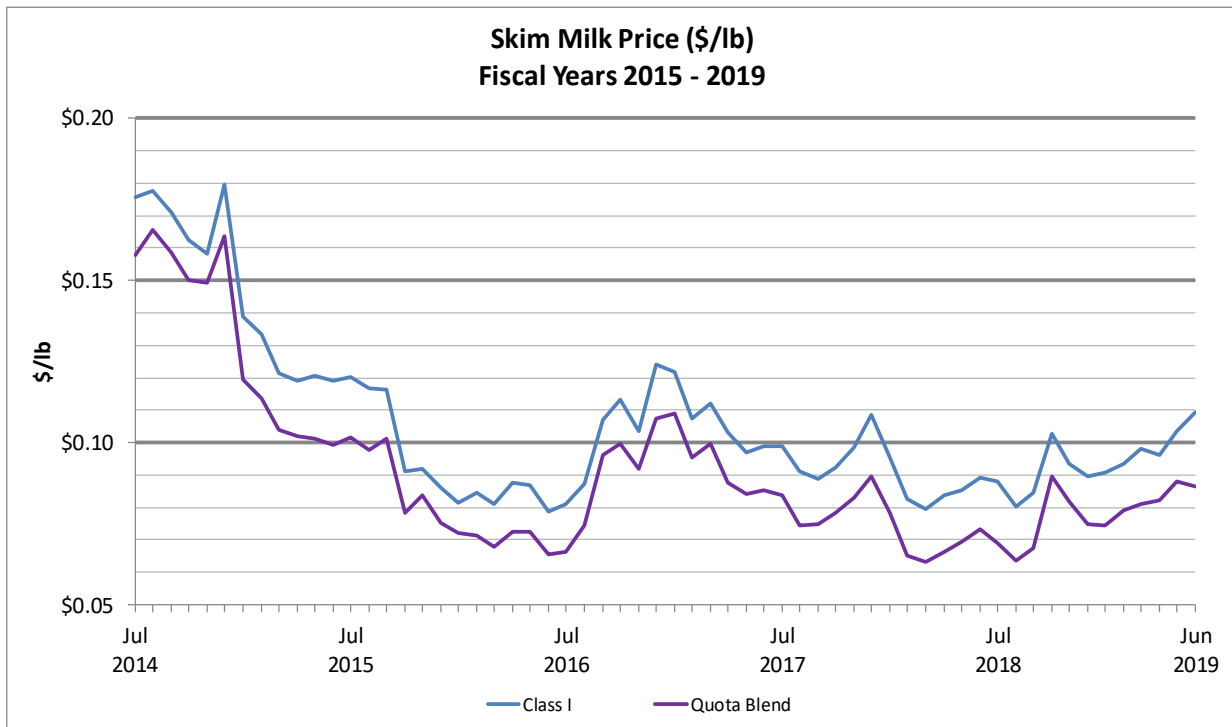
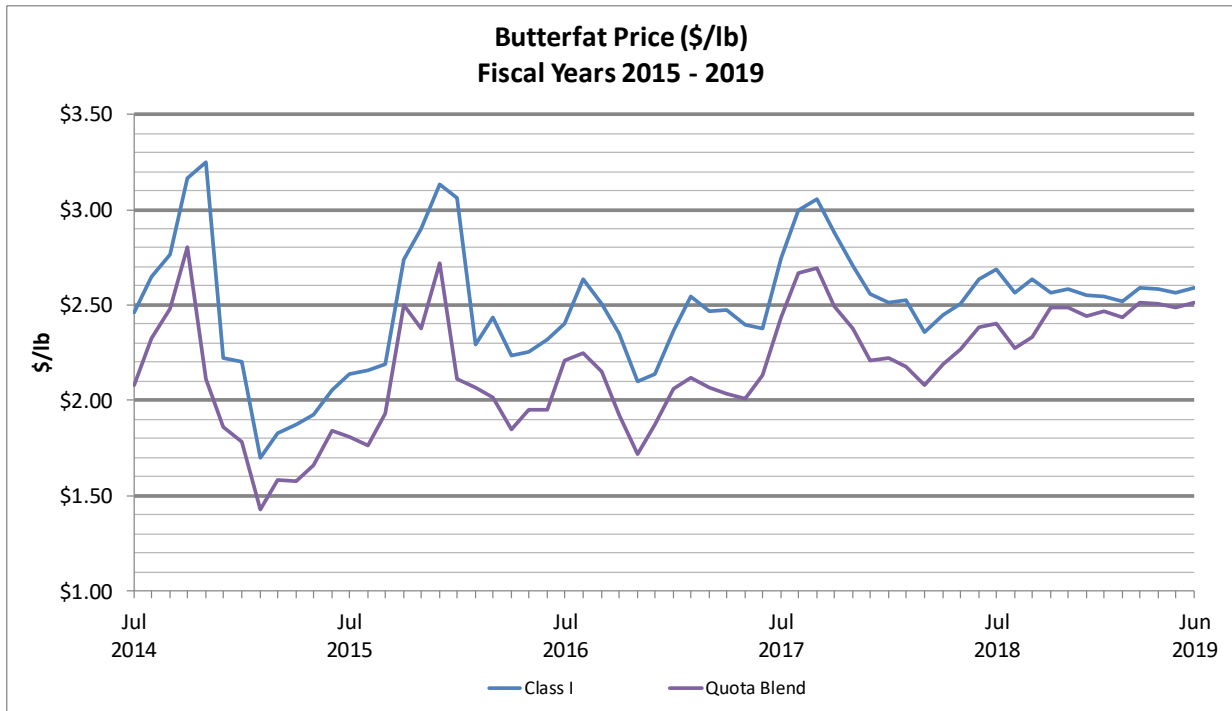




PRICE CHARTS JULY 2014 – JUNE 2019

The following charts show Montana Class I prices and Montana Quota Blend producer prices for milk containing 3.5% butterfat, butterfat component of milk, and skim milk component of milk. The prices received for milk with 3.5% butterfat in fiscal year 2019 were similar to the prior three years, with a trend of increasing butterfat prices roughly offsetting a trend of declining skim milk prices. The impact of the amendment to Montana’s Class III butterfat price formula in October 2018 is evident in the butterfat price chart.

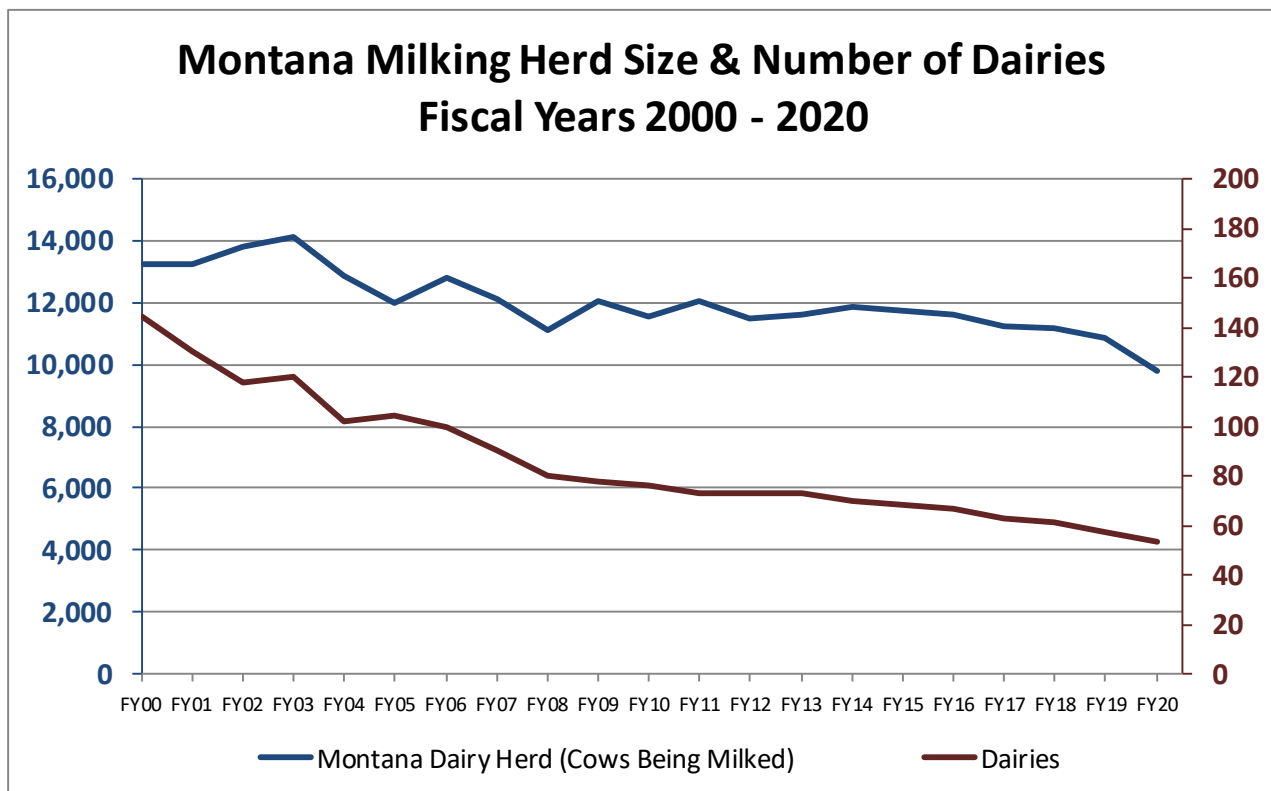


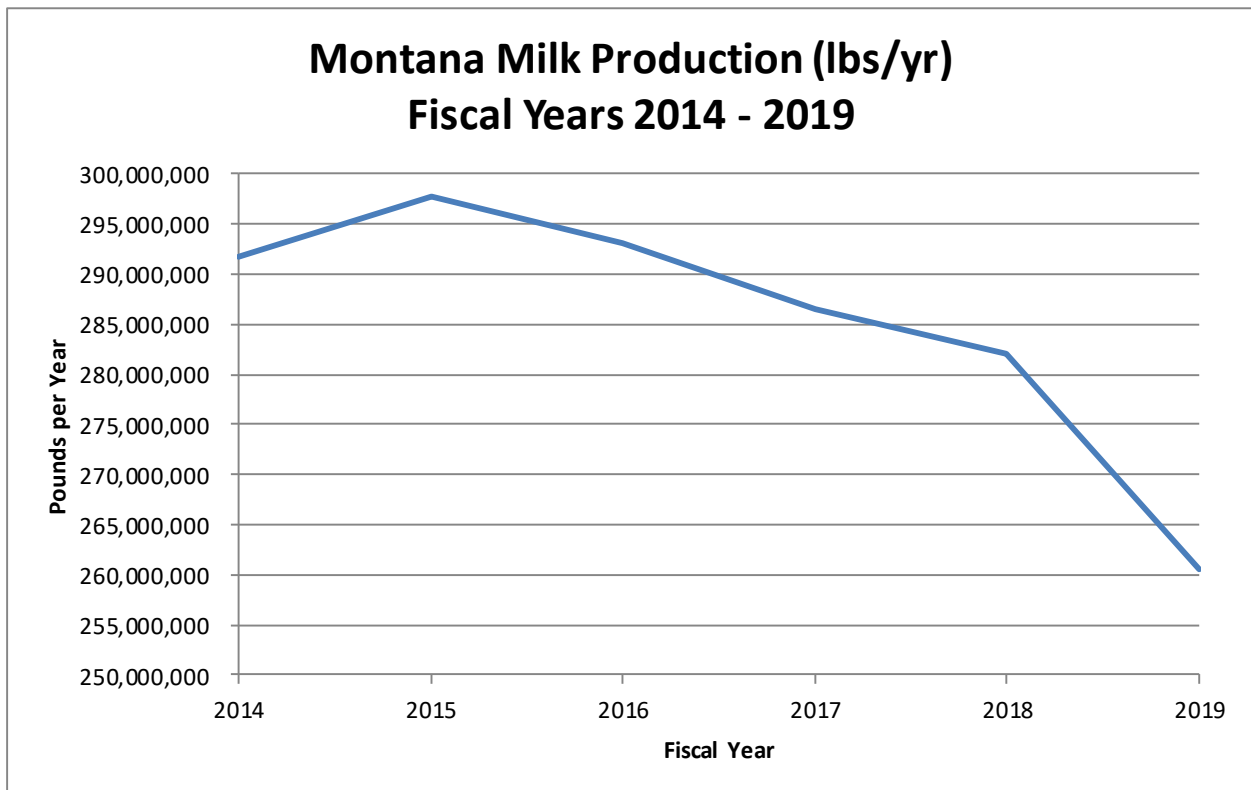
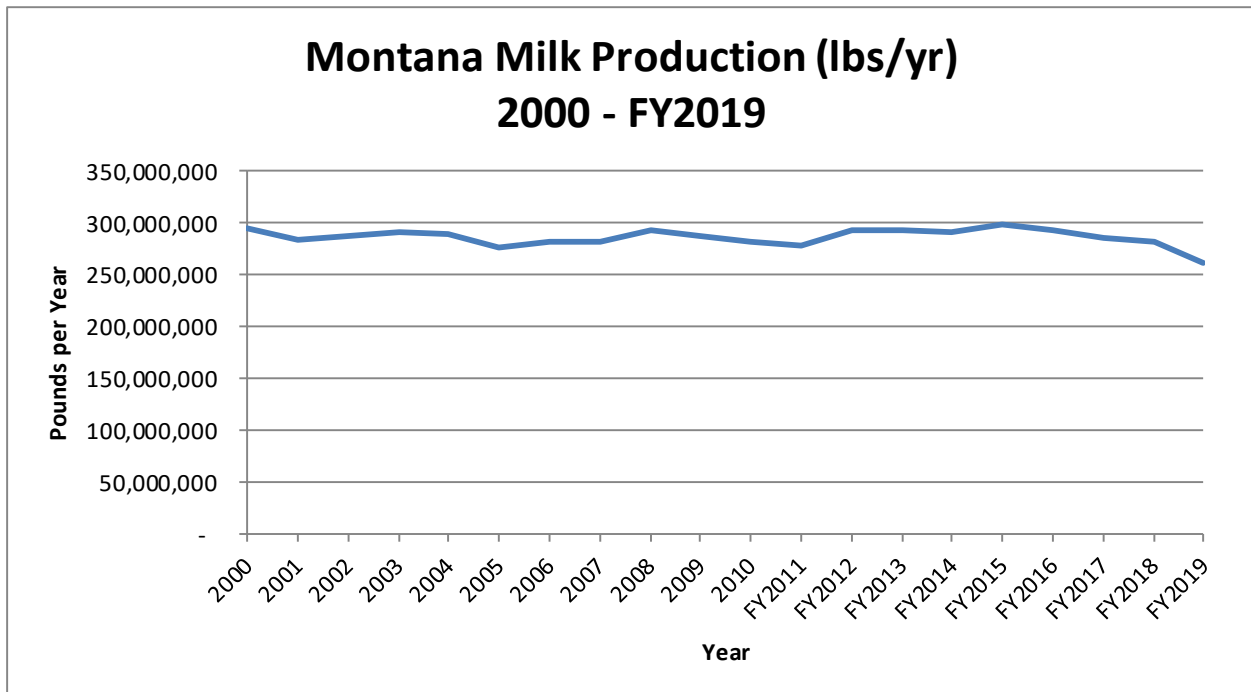


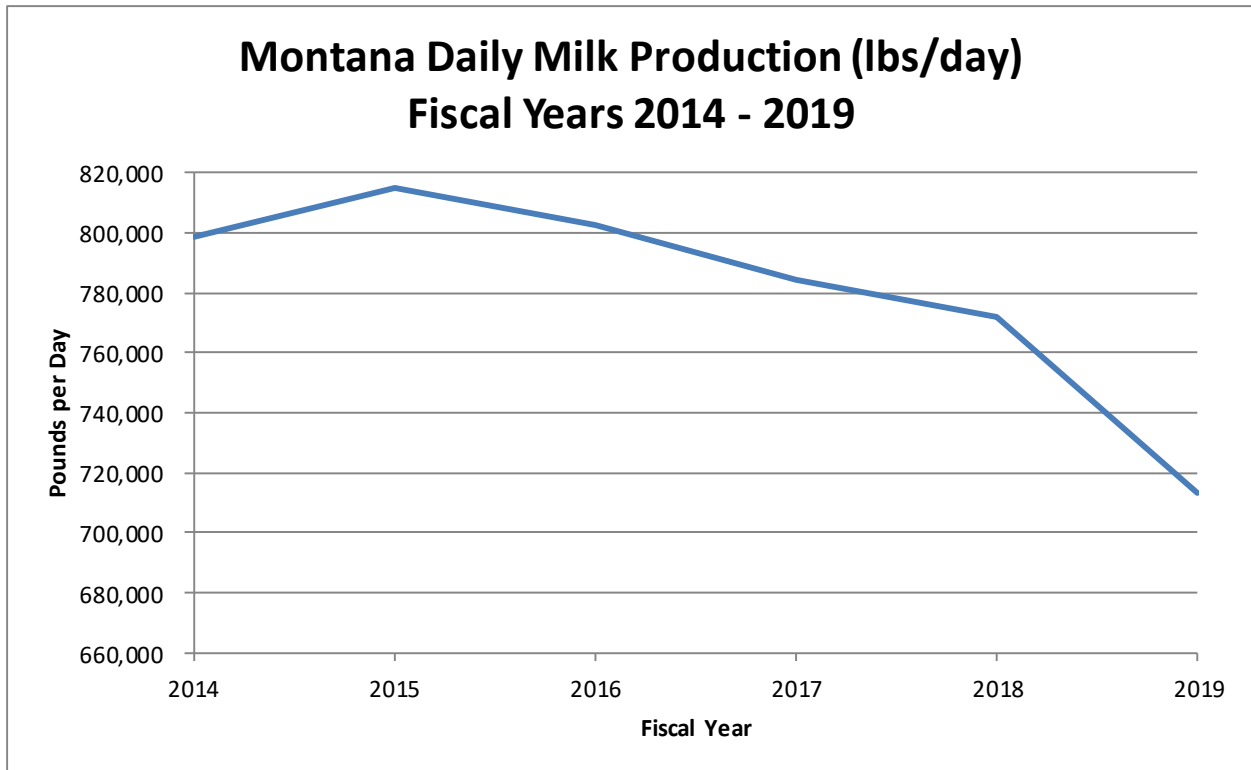
MONTANA MILK PRODUCTION

Dairies that participate in Montana’s pool marketing system account for most of Montana’s milk production. These dairies supply milk to Darigold’s processing plant in Bozeman and Meadow Gold’s processing plants in Great Falls and Billings. Montana Correctional Enterprise’s dairy and processing plant in Deer Lodge are also included in pool statistics. Dairies that are licensed as producer-distributors account for the rest of Montana milk production. The map on page 33 shows the counties in which dairies are licensed to operate in fiscal year 2020.

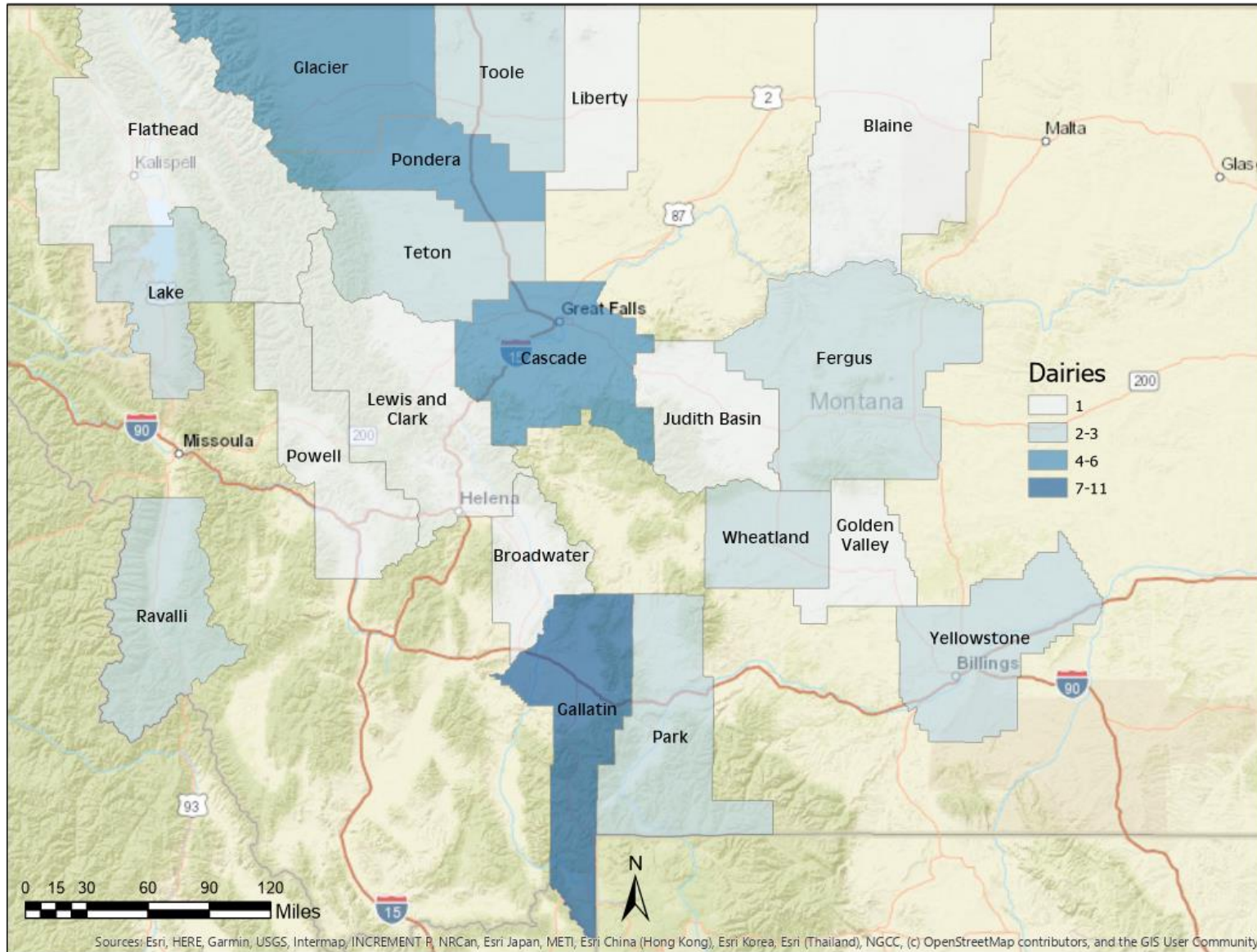
The following charts show the size of Montana’s dairy herd and the number of dairies licensed in fiscal year 2000 through fiscal year 2020, Montana milk production from 2000 through fiscal year 2019, and total milk production (per year and per day) for fiscal year 2014 through fiscal year 2019. The size of Montana’s milking herd is based on information provided by producers and producer-distributors in annual license applications. From fiscal year 2000 to fiscal year 2019, the number of cows being milked declined by 18%, while the number of dairies declined by 60%. The average number of cows being milked per dairy increased from 92 cows per dairy in fiscal year 2000 to 190 cows per dairy in fiscal year 2019. The reduction in production is less than the reduction in herd size due to an increase in dairy cow productivity. Montana milk production in fiscal year 2019 was 11.5% lower than in 2000, with most of the decrease occurring in fiscal year 2019. Production in fiscal year 2019 was the lowest in the 20 years shown in the charts and was approximately 9% lower than the average of the 2000 – 2019 time period.







Montana Dairies by County Licensed for Fiscal Year 2020



MILK IMPORTS / EXPORTS

In the discussion of Montana's milk imports and exports, the terms refer to trade between Montana and other states, not international trade.

MILK IMPORTS

Bulk Milk

A provision in the Milk Control Act (81-23-302(10), MCA) specifies that distributors with processing facilities in the state shall *"whenever possible, purchase milk from Montana producers for the processing of products to be sold in this state if milk is available from Montana producers at the price set by the board."* In fiscal year 2019, pool handlers imported 25.3 million pounds of bulk unpasteurized milk, an average of approximately 2.1 million pounds per month. In comparison, Montana producers delivered over 255 million pounds of milk to pool handlers in fiscal year 2019, an average of approximately 21.25 million pounds per month. Due to milk plant needs and the decline in supply from Montana producers, Montana distributors imports of bulk milk increased by 4.4 million pounds in fiscal year 2019.

The bulk milk imports are primarily attributed to Meadow Gold – Billings purchasing milk from Wyoming producers, processing the milk, and distributing it to the Wyoming market. Infrequently, pool handlers import bulk milk for other reasons, such as enabling a plant to be shut down during a holiday. Current levels of bulk milk imports are lower than Class I packaged milk exports for any given month. As such, Montana is a net exporter of milk to Wyoming.

Processed Dairy Products

Processed dairy products are imported by both out-of-state distributors and in-state distributors. The following table shows the dairy product imports in fiscal year 2019 in units of pounds of milk equivalent calculated on a milk solids basis. Because Montana's milk equivalent conversion factors changed in fiscal year 2019, the fiscal year 2019 estimates are not comparable to prior years, particularly for Class II uncultured products, cheese, and butter.

Estimated Montana Dairy Product Imports – Fiscal Year 2019

Product Description	Imports (lbs milk equivalent)
Class I Fluid Milk Products	31,075,505
Class II Fluid Cream Products	37,101,711
Class II Uncultured Products (<i>ice cream & frozen yogurt</i>)	36,116,822
Class II Cultured Products (<i>cottage cheese, sour cream, yogurt</i>)	32,810,159
Class III Products (<i>cream cheese, cheese, butter</i>)	235,009,167

MILK EXPORTS

Montana exports include Class I fluid milk products packaged in Montana's pool plants, bulk unpasteurized milk, and bulk cream collected by pool handlers. Montana's exports of bulk milk and Class I packaged fluid milk products significantly exceed its bulk milk imports. The bureau estimates that bulk cream exported from Montana could have produced approximately 4.7 million pounds of butter. In fiscal year 2019, approximately nine million pounds of butter were consumed in Montana, almost all of it imported from outside of Montana.

Montana Milk Exports – Fiscal Year 2019

Product Description	Exports (lbs)
Bulk Cream	9,630,654
Bulk Milk	10,524,133
Class I Packaged Fluid Milk Products	101,625,756
Total	121,780,543

MONTANA POOL MARKETING SYSTEM

EXPLANATION OF POOLING & QUOTA SYSTEM

Montana Pool System

Montana's pool marketing system enables producers to receive uniform milk prices (for milk of equivalent butterfat content) based on the overall utilization of pool milk received by all of Montana's pool handlers, plus the Montana Correctional Enterprises dairy plant. Without the pool marketing system, an individual dairy's milk price would be completely dependent upon how the receiving plant utilized the milk. By having a pool marketing system, variation in blend prices (for milk of identical butterfat content) for producers delivering to different plants does not occur. Because of the statewide pooling arrangement, producers supplying an individual plant are not as exposed to the volatility of that plant's marketing "wins" and "losses."

Quota System

Montana's quota system was established in an effort to discourage overproduction that would depress statewide pool blend prices. Montana's quota system establishes a \$1.50/cwt differential in the price of milk produced "in quota" over the price of milk produced "in excess" of quota.

Excess production accounted for 1.6% of production in fiscal year 2019, down from 3.66% in fiscal year 2018. The decrease resulted from the sale of quota from dairies that went out of business to dairies that used the quota to reduce the portion of their production that was in excess of quota. Most dairies that closed in fiscal year 2019 reportedly sold their herds to out-of-state buyers.

Montana's quota system allows for additional quota to be allocated but does not allow for outstanding quota to be reduced. An adjustment (increase) in quota happens when both of the following conditions occur: (1) more than 83.5% of non-surplus quota milk is utilized in Class I and Class II and (2) non-surplus quota milk utilized for Montana Class I and Class II products increases relative to two years prior. In calendar year 2018, approximately 58% of non-surplus quota milk was utilized in Class I and Class II, and non-surplus quota milk utilized for Montana Class I and Class II products decreased by 8.8 million pounds compared to 2016. Because of generally steady decline in Montana Class I and Class II utilization and steady levels of production, the last time there was an adjustment (increase) in quota was 2001.

The provisions of Montana's administrative rules allow for quota to be provided to a "new eligible producer" for a portion of production. For a new eligible producer, the following sales to a pool handler are treated as if the milk was quota milk: 20% of sales to a pool handler in April – August and 35% of sales in September – March. If the new eligible producer purchases quota, the described assignment of quota is reduced by the amount of quota purchased.

Producers are allowed to transfer quota. Per ARM 32.24.502(3), producers may lose quota if delivery of milk to pool handlers is discontinued for over 90 consecutive days. If such producer's quota is not transferred within the 90-day period, it is forfeited. Forfeited quota is allocated to all remaining eligible producers on the following May 1st if the total unassigned quota is 500 lbs/day or more.

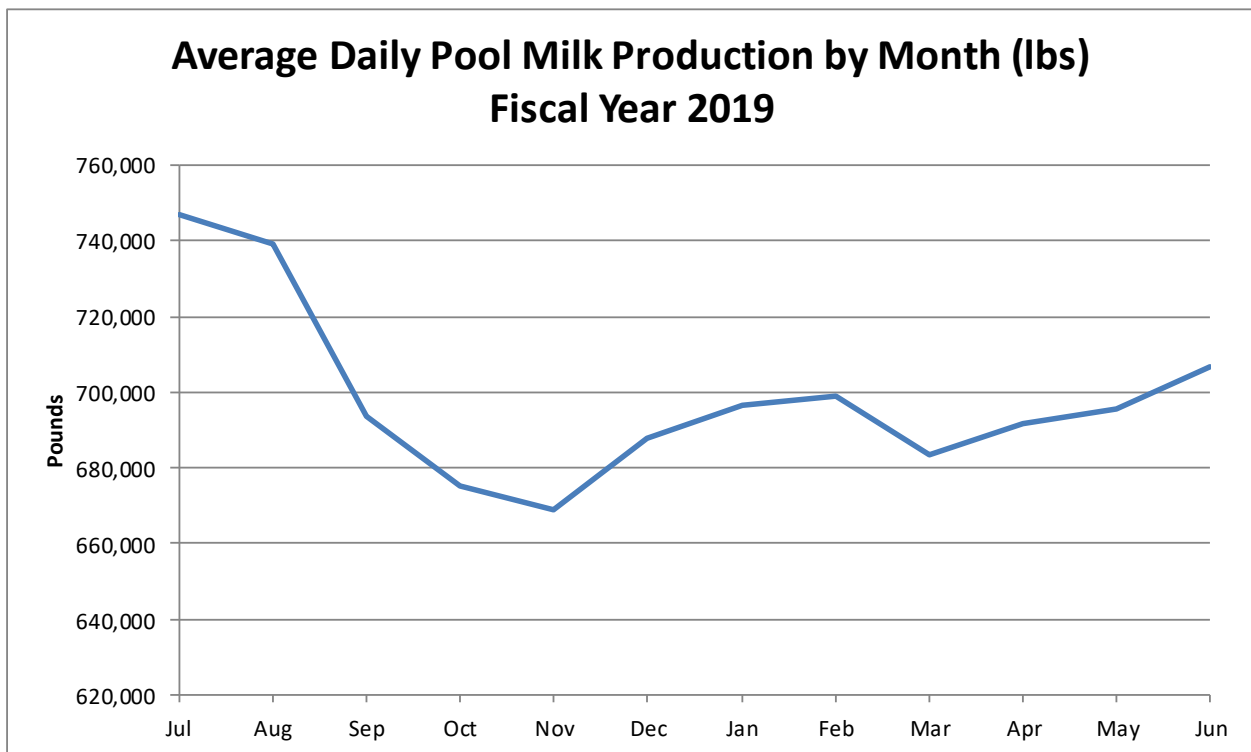
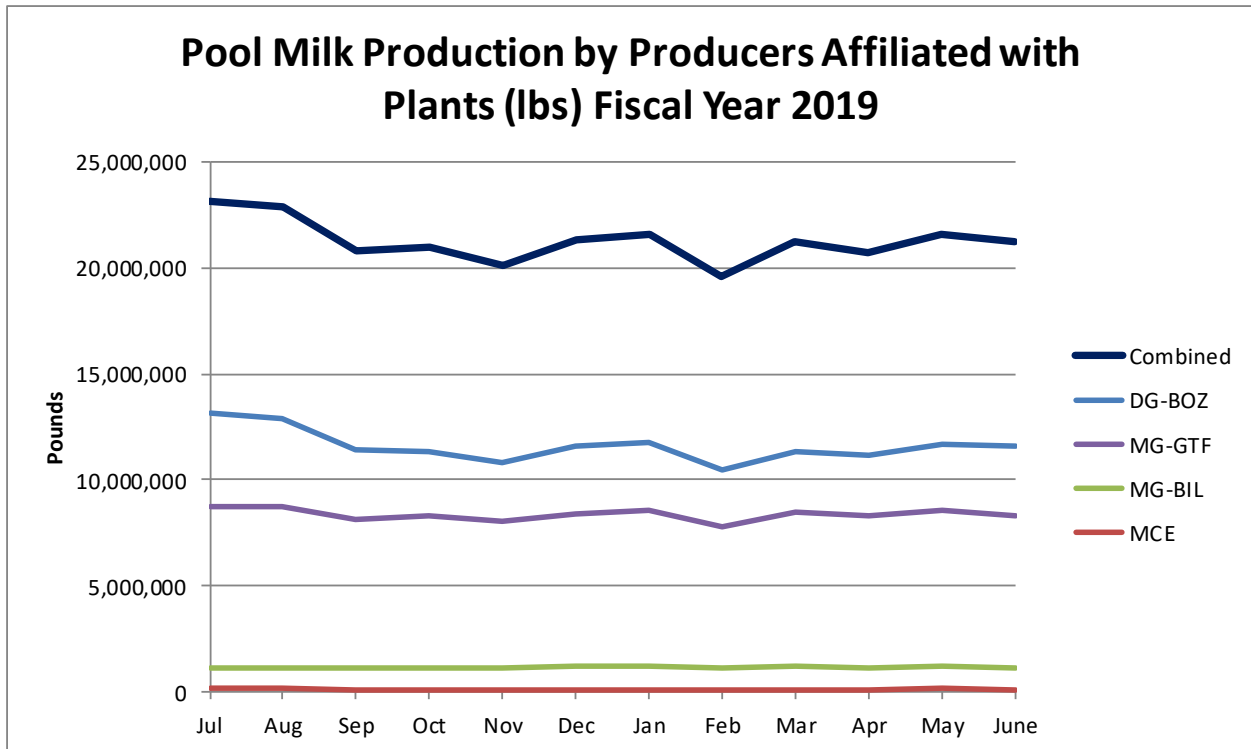
POOL PRODUCTION

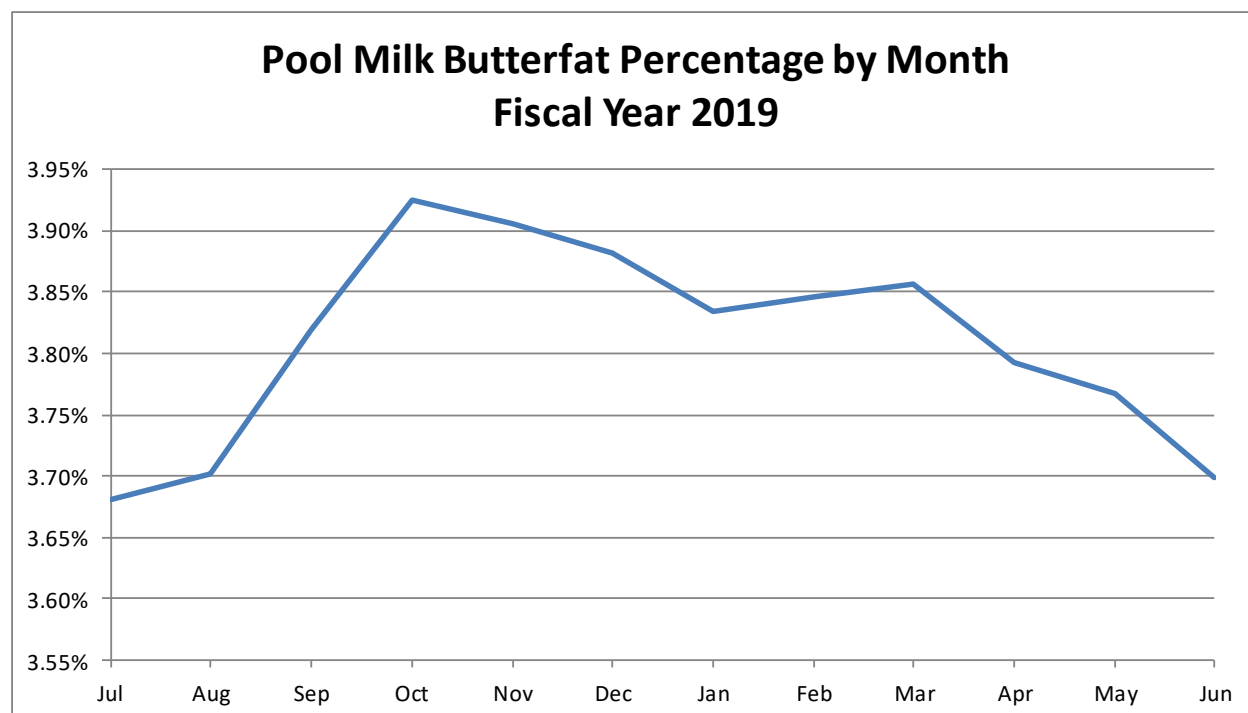
In fiscal year 2019, 55 dairies produced and delivered milk to three pool handlers, plus the Montana Correctional Enterprises plant. The following table shows the Montana milk pool's annual production, average butterfat content, weighted average pool price, and gross receipts for fiscal year 2012 through fiscal year 2019. Pool production in fiscal year 2019 was approximately 11% lower than the average production of the prior seven years. The butterfat content was the highest in the eight-year period. In fiscal year 2019 (relative to fiscal year 2018), production decreased by 7.7%; the weighted average price increased by 4.5%; and annual gross receipts decreased by 3.5%.

Summarized Pool Information: Fiscal Year 2012 – 2019

Fiscal Year	Production (lbs)	Butterfat (%)	Weighted Average Price (\$/cwt)	Annual Gross Receipts (\$)
2012	288,601,895	3.69%	\$18.71	\$53,989,689
2013	288,126,166	3.73%	\$19.01	\$54,782,758
2014	286,550,985	3.78%	\$21.79	\$62,446,124
2015	292,232,179	3.73%	\$19.93	\$58,232,010
2016	287,449,454	3.72%	\$15.39	\$44,251,077
2017	280,582,982	3.74%	\$16.36	\$45,912,344
2018	276,252,329	3.78%	\$16.05	\$44,351,192
2019	255,057,344	3.81%	\$16.78	\$42,802,717

The following charts provide information from fiscal year 2019 about pool production on a monthly basis to show seasonal aspects of production. The amount (weight) of monthly production is impacted by the number of days of the month, the number of cows being milked, dairy cow productivity, and herd management. The first chart shows milk received from pool producers by each of Montana's pool handlers, plus the Montana Correctional Enterprises plant. Dairy cows experience what is referred to as the "spring flush" and produce more milk in the spring and early summer months. This second chart does not reflect this as much as prior years because of the decline in Montana's dairy herd in FY2019, most of which occurred due to dairy closures in the fall of 2018.

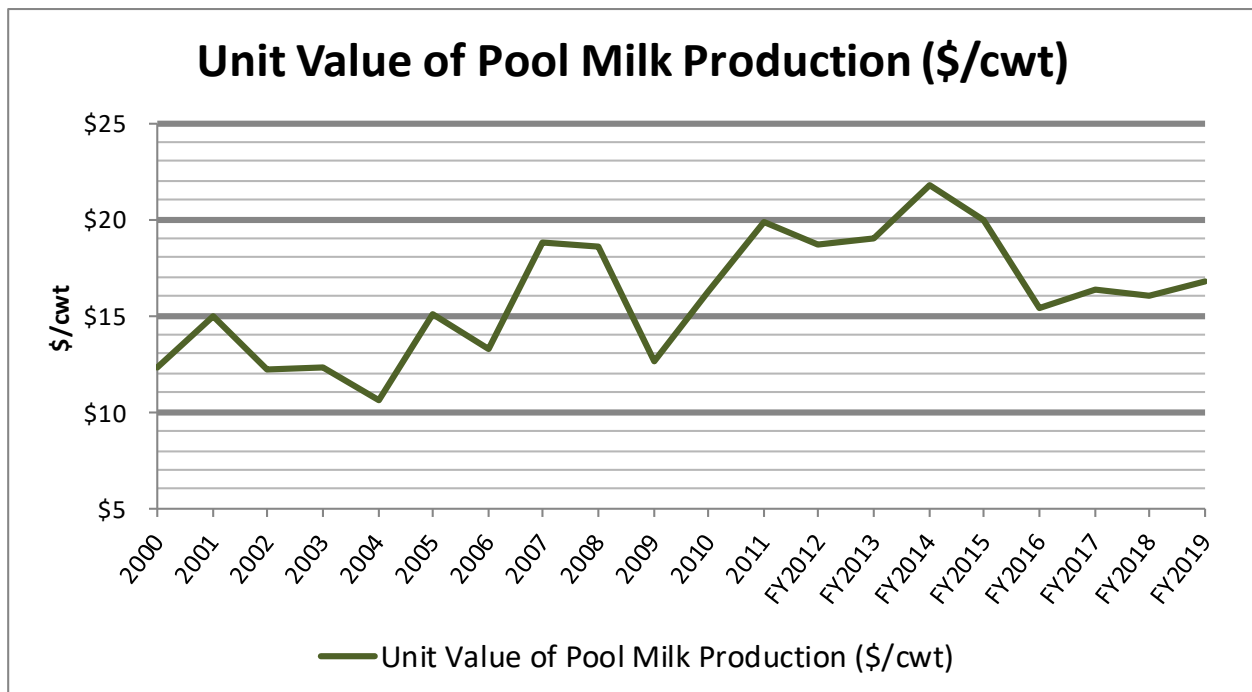
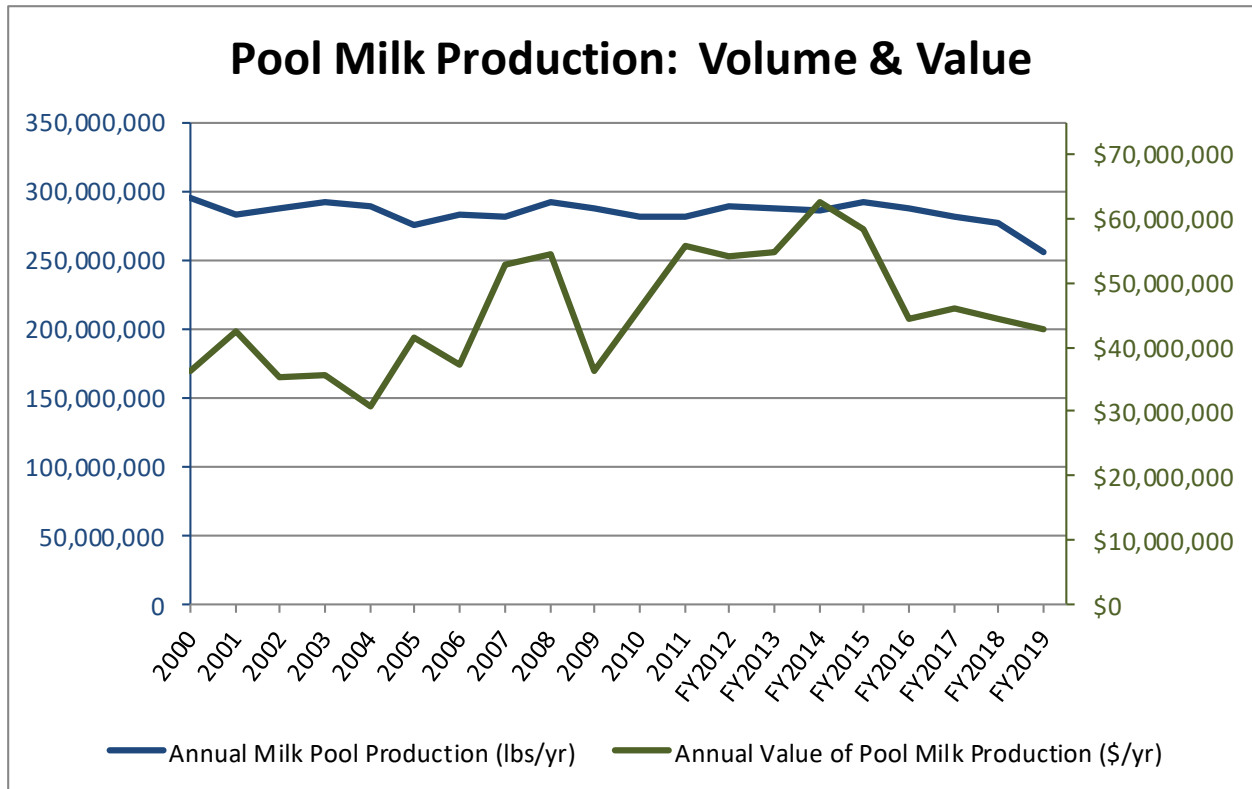




THE PRICE/COST OF POOL MILK

Montana's pool marketing system establishes how pool dairies are compensated for milk. The Milk Control Bureau announces minimum prices prior to the month of production. Pool handlers report milk receipts and utilization information by the 8th day following the month of production; after which, the bureau uses the information to calculate quota and excess prices and calculate amounts to be paid to pool producers.

The following charts provide perspective on the volume of pool production, annual value of pool milk sold to pool handlers, and annual weighted average unit price paid for pool production from 2000 through fiscal year 2019. Until fiscal year 2019, production had been relatively stable. Milk production decreased notably in fiscal year 2019, the fourth consecutive year that production declined. The value of production has generally trended upward and reflected milk prices. Prices since fiscal year 2015 have been lower than the first half of the decade. Milk prices have roughly followed the path of other commodities (such as feedstuffs) during the time period, increasing dramatically in 2007; plunging in 2009; recovering to price levels similar to the 2007 – 2008 time period; setting a record high in 2014; and decreasing dramatically in 2015, with only modest recovery since. The decline in milk prices in 2015 lagged declines of most other agricultural commodities. The value per hundredweight of pool milk production has trended slightly higher since fiscal year 2016, when the value per hundredweight of pool milk was the lowest of the decade.



The following table identifies the key factors that determine the value of Montana pool milk. The production and utilization factors result in a poolwide utilization value calculated for butterfat and skim milk produced by pool dairies. Adjustments are made to the skim milk utilization value for the transportation charges incurred for shipments of unprocessed pool milk between pool plants and for surplus milk sales.

Key Factors That Determine the Value of Montana Pool Milk
<p><i>Production & Utilization Factors</i></p> <ul style="list-style-type: none"> • poolwide production and butterfat content • announced minimum prices for skim milk and butterfat for each class • percentage of skim milk and butterfat utilized in each class
<p><i>Transportation Charges for Intrapool Shipments of Unprocessed Milk</i></p> <ul style="list-style-type: none"> • the volume of sales of unprocessed pool milk between pool plants and shipment freight rates
<p><i>Surplus Sale Factors</i></p> <ul style="list-style-type: none"> • volume of milk exported as Class I packaged surplus milk and location of the receiving market (whether the market is contiguous or non-contiguous to Montana) • volume of milk exported as bulk surplus milk, the sale proceeds received relative to the Montana classified value of the milk, and the freight costs of shipping the milk to out-of-state processors

Transportation charges incurred for shipments of unprocessed pool milk between pool plants are deducted from the pool skim milk utilization value.

“Surplus” milk is defined by ARM 32.24.150(42). In brief, surplus milk is milk produced in Montana that is not consumed in Montana, excluding sales of cream to out-of-state markets, inventory, shrink, and dumped milk. Surplus sale factors allow for adjustments to the value of pool milk that reflect market dynamics. Surplus milk may be milk sold to out-of-state markets in packaged form or in bulk. The majority of surplus milk is Class I packaged milk sold to out-of-state markets.

- For Class I packaged milk that is surplus milk, pool handlers pay the Montana Class I value less surplus sales adjustments established in rule that depend on whether the market is in a state that is contiguous or non-contiguous to Montana.
- For bulk surplus milk, the class of utilization is based on how the out-of-state receiving plant utilizes the milk. Most often, bulk surplus milk is classified as a Class III utilization because the receiving plants are cheese plants or powdered milk plants. The surplus adjustment for bulk surplus milk is the actual value received from the sales (market value), less an adjustment for freight charges requested by a pool handler, less the initial Montana utilization value (value based on Montana classified prices). Typically, bulk surplus sales adjustments are negative adjustments to the utilization value, but it is

possible to have a positive bulk surplus sales adjustment depending on the market value of milk and requested adjustment for freight charges.

Dairy Payroll: Quota / Excess Prices

The price an individual dairy is paid for the milk it sells in a month is based on whether the milk produced is within that dairy’s quota right and the extent to which production exceeds quota. Quota milk production is priced \$1.50/cwt higher than excess production. For each dairy, payment is based on the actual butterfat content of the dairy’s monthly milk production.

The following table provides a schematic of the sequence for determining prices to be paid to individual dairies for milk produced in quota and milk produced in excess of quota. The quota price shown for milk in the Montana minimum price charts is for milk with 3.5% butterfat content. The quota price is determined by calculating the statewide pool’s value of skim milk and butterfat (utilization of skim milk and butterfat multiplied by minimum prices for the associated class of milk); making adjustments to the pool skim milk value for transportation charges for shipments of unprocessed pool milk between pool plants and surplus sales adjustments; making adjustments to the pool skim milk value that maintain a stable balance in the producers’ settlement fund; and applying calculations that create a \$1.50/cwt differential between the quota milk price and excess milk price.

Skim Milk Portion of Milk	Butterfat Portion of Milk
Classification by Utilization for Skim Milk & Butterfat: I, II, III	
Poolwide Skim Milk Utilization Value <i>(classified announced prices multiplied by weight of Class I, II, III utilization)</i>	Poolwide Butterfat Utilization Value <i>(classified announced prices multiplied by weight of Class I, II, III utilization)</i>
Adjustments to Skim Milk Utilization Value: - Transportation Charges for Intrapool Shipments + / - Surplus Sales Adjustments <u>+ / - Settlement Fund Adjustments</u>	
= Adjusted Poolwide Skim Milk Utilization Value	
Adjustments to create Quota / Excess Price Differential (\$1.50/cwt)	
Skim Milk & Butterfat Quota / Excess Unit Prices (\$/lb)	
Blend Price to be Paid to an Individual Dairy Based Upon Actual Butterfat Content	

Utilization of Pool Milk Receipts

Pool handlers submit reports to the Milk Control Bureau that are used to determine the utilization of pool milk received. These reports show the weight of milk and butterfat used to produce products in the various classes of milk utilization. Ending inventory of Class I packaged milk is reported as a Class I utilization; and ending inventory of bulk milk is reported as a Class III utilization. Milk dumped is classified as a Class III utilization. Shrinkage, which is the difference between milk receipts and milk otherwise accounted for, is classified as a Class III utilization,

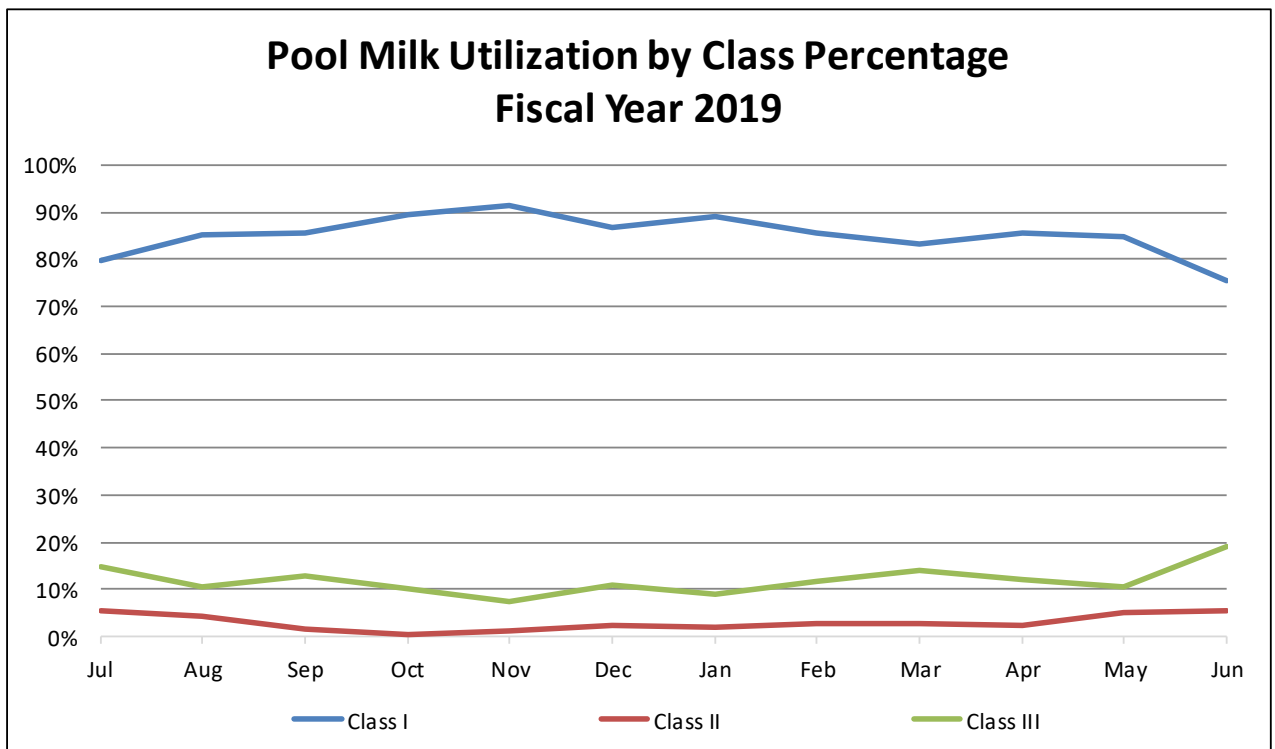
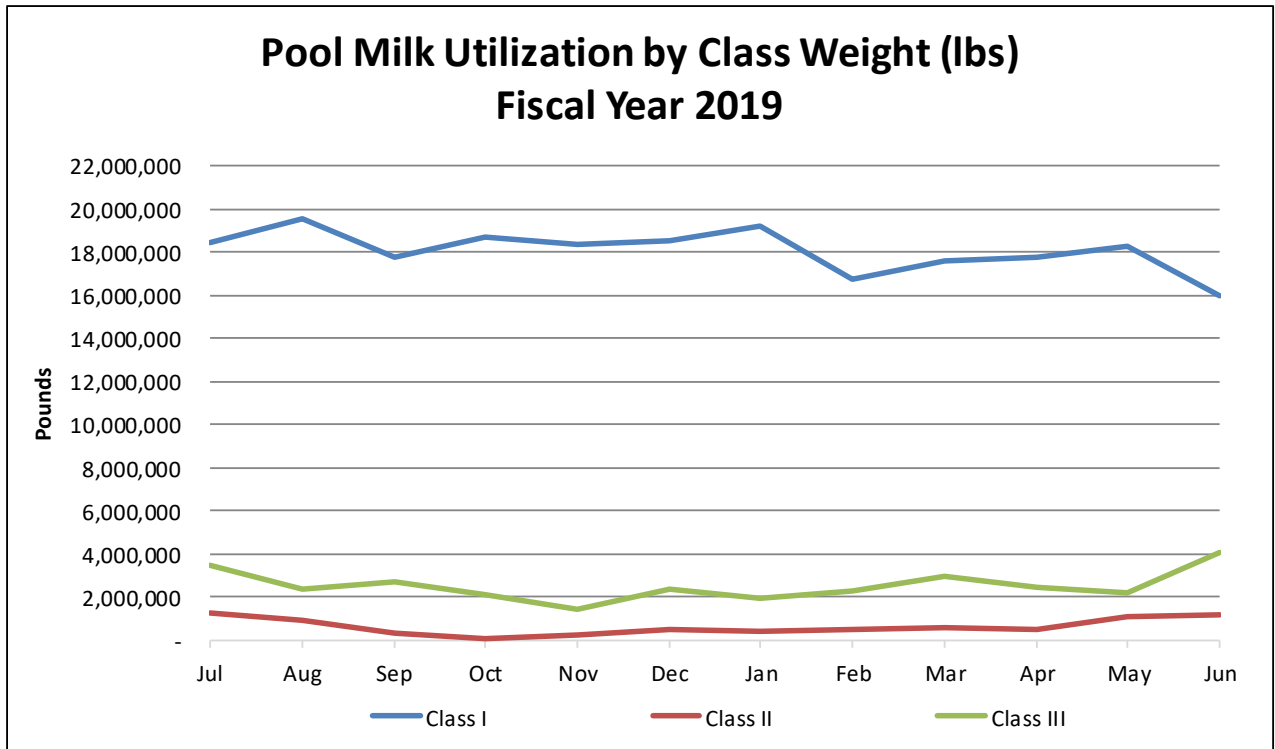
except any shrinkage in excess of two percent of producer receipts is classified as a Class I utilization. The purpose of classifying shrinkage exceeding the two percent threshold as a Class I utilization is to encourage pool handlers to be efficient in processing milk and to protect producers from bearing a cost for inefficient milk processing. The classification of unprocessed milk sold to other pool handlers is based on the receiving pool handler's utilization of the milk.

The following table summarizes the utilization of skim milk and butterfat by class, value of utilization, and weighted average unit value.

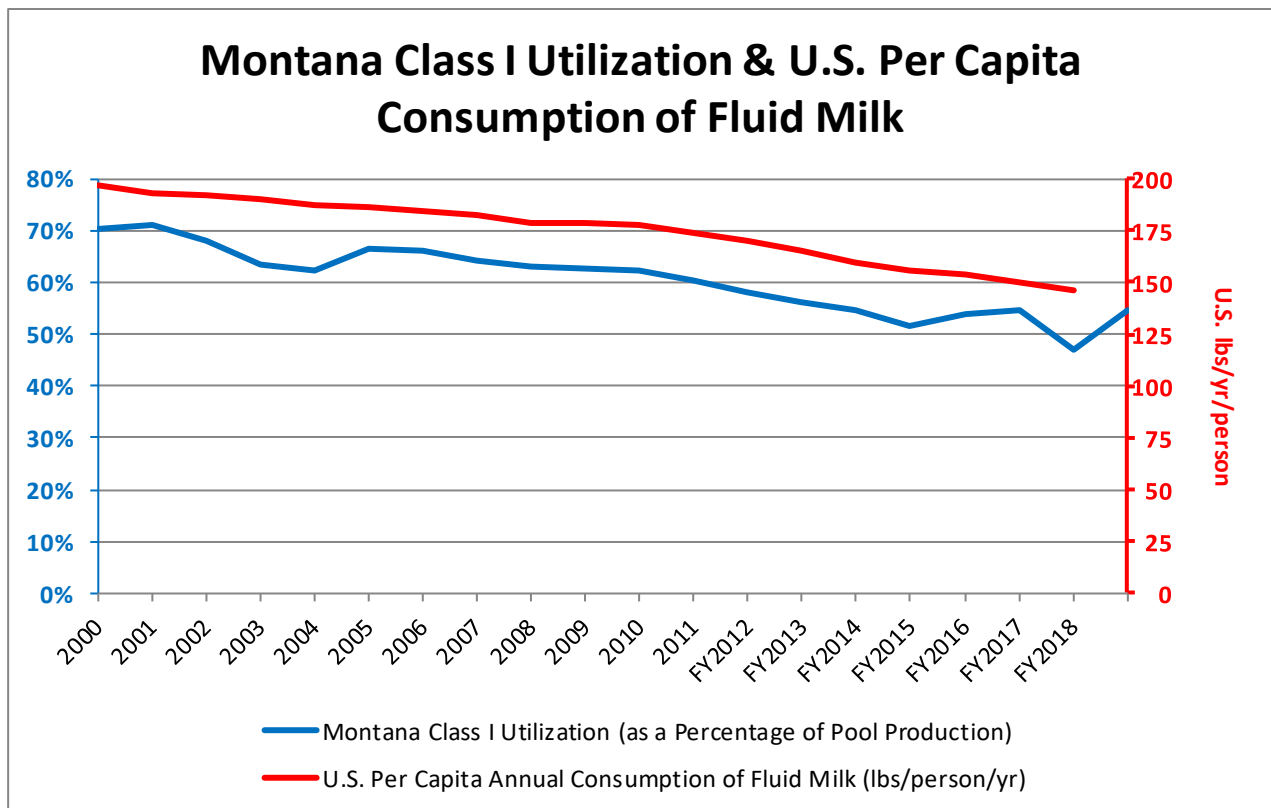
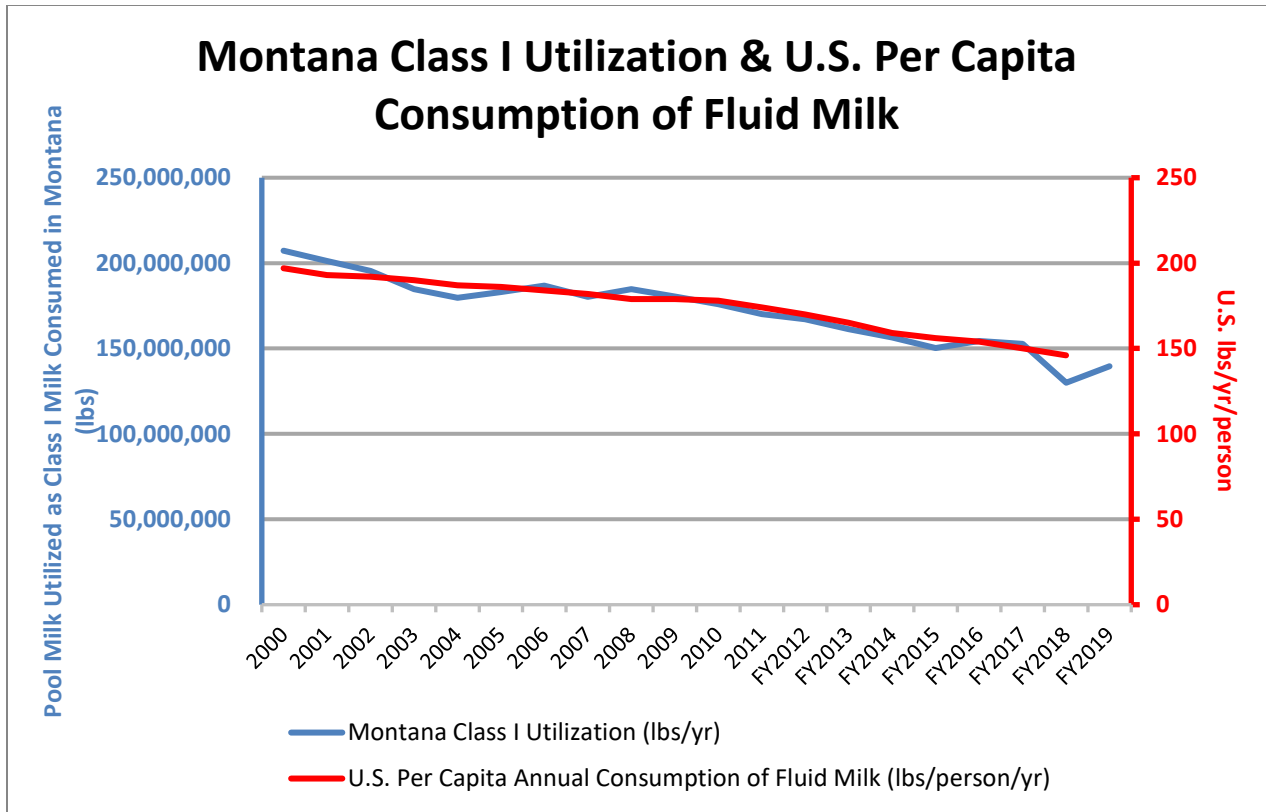
Fiscal Year 2019 Pool Milk Utilization Volume, Value, Average Unit Value Before Adjustments

	CLASS I	CLASS II	CLASS III	All Classes – Before Adjustments
Skim Milk Utilization (lbs)	212,647,175	6,532,147	26,168,597	245,347,919
Skim Milk Utilization (\$)	\$20,090,154	\$505,005	\$1,597,621	\$22,192,780
Skim Milk Utilization – Unit Value (\$/lb)	\$0.0944765	\$0.0773107	\$0.0610511	\$0.0904543
Butterfat Utilization (lbs)	4,360,846	1,074,056	4,274,523	9,709,425
Butterfat Utilization (\$)	\$11,261,781	\$2,705,172	\$9,761,159	\$23,728,112
Butterfat Utilization – Unit Value (\$/lb)	\$2.5824761	\$2.5186508	\$2.2835668	\$2.4438226

The following two charts show monthly poolwide utilization of milk in terms of pounds per month and percentage of production. Viewing utilization by percentage of production eliminates variation that is based on the number of days in a month. In terms of total utilization and utilization as a percentage of production, Class I utilization peaks in the fall months and is lowest in the spring and summer months. This seasonal trend is influenced by seasonal sales patterns (strongly influenced by school milk sales) and seasonality in milk production. Class II utilization peaks in the summer months and is driven by sales of ice cream and ice cream mix products.

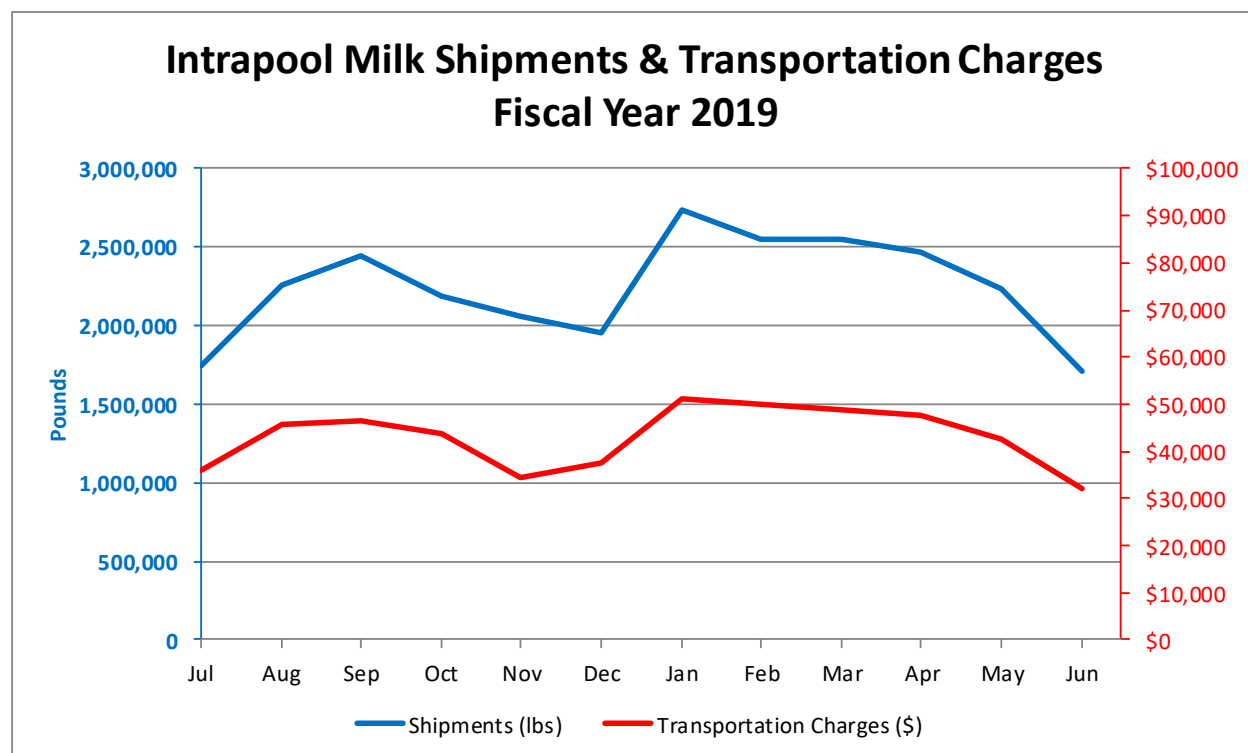


The following chart shows the percentage of Montana pool milk utilized as Class I milk consumed in the Montana market and the per capita consumption of fluid milk in the United States since 2000. The USDA Economic Research Service was the source of per capita consumption information (<http://www.ers.usda.gov/data-products/dairy-data>, accessed September 9, 2019). Since 2000, pool production has been relatively stable, and Montana's population increased from approximately 904,000 in 2000 to 1,062,000 in 2018 according to the U.S. Census Bureau. The trend for the percentage of pool milk utilized as Class I milk consumed in Montana is one of decline, which corresponds to the trend of declining per capita consumption of fluid milk in the United States. Total utilization of pool milk as Class I milk consumed in Montana has decreased by nearly 33% since 2000. Annual U.S. per capita consumption of fluid milk has declined by nearly 26%, from 197 pounds in 2000 to 146 pounds in 2018. The percentage of pool milk utilized as Class I milk consumed in Montana declined from accounting for 70.4% of pool production in 2000 to 47% in fiscal year 2018. In fiscal year 2019, the percentage of pool milk utilized as Class I milk consumed in Montana increased to 54.8% in fiscal year 2019 due to a 7.5% increase in total in-state Class I utilization of pool milk (numerator) and 7.7% decrease in pool milk production (denominator). Other potential factors influencing the decline of the percentage of Class I pool milk consumed in Montana include increased availability and possibly market share of ultrapasteurized products (such as organic milk, lactose-free milk, and other specialty or branded products) that are imported into the state; loss of market share to a myriad of new beverage products, including plant-based milk substitutes; and changes in food distribution systems that have led to an increase in out-of-state distributors supplying Montana stores. Class II manufacturing in Montana accounts for a relatively small amount of utilization. Because production has been relatively steady and Montana dairy processors do not utilize a large percentage of pool milk for production of Class II and Class III products, the decrease in the percentage of pool milk utilized as Class I milk that is consumed in Montana is being offset by exports of surplus milk.



Adjustment for Transportation Charges of Intrapool Milk Shipments

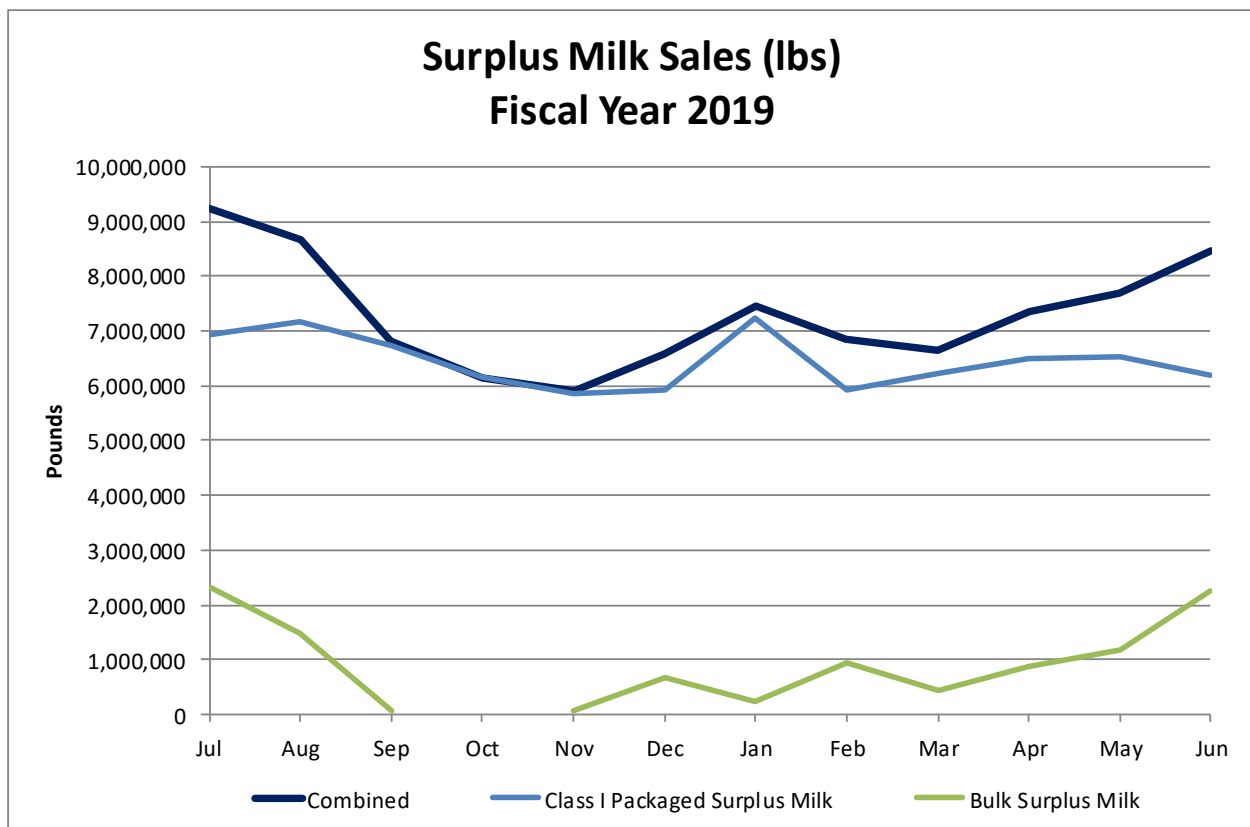
A negative adjustment to the skim milk utilization value is made for transportation charges for shipments of unprocessed pool milk between pool plants. In fiscal year 2019, the skim milk utilization value was reduced by \$516,139 for shipment of 26.9 million pounds of unprocessed pool milk (\$1.92/cwt average freight rate). The following chart shows the volume of the intrapool shipments and total transportation charges for each month in fiscal year 2019. The charges were primarily driven by shipments from Meadow Gold – Great Falls to Meadow Gold – Billings. Besides accounting for the vast majority of intrapool shipments, the freight rate for diverting milk from Meadow Gold – Great Falls to Meadow Gold – Billings is also higher than for other intrapool shipments. In fiscal year 2019, intrapool shipments of unprocessed pool milk also occurred from Darigold – Bozeman to Meadow Gold – Billings, Meadow Gold – Great Falls to Darigold – Bozeman, and Darigold – Bozeman to Meadow Gold – Great Falls.

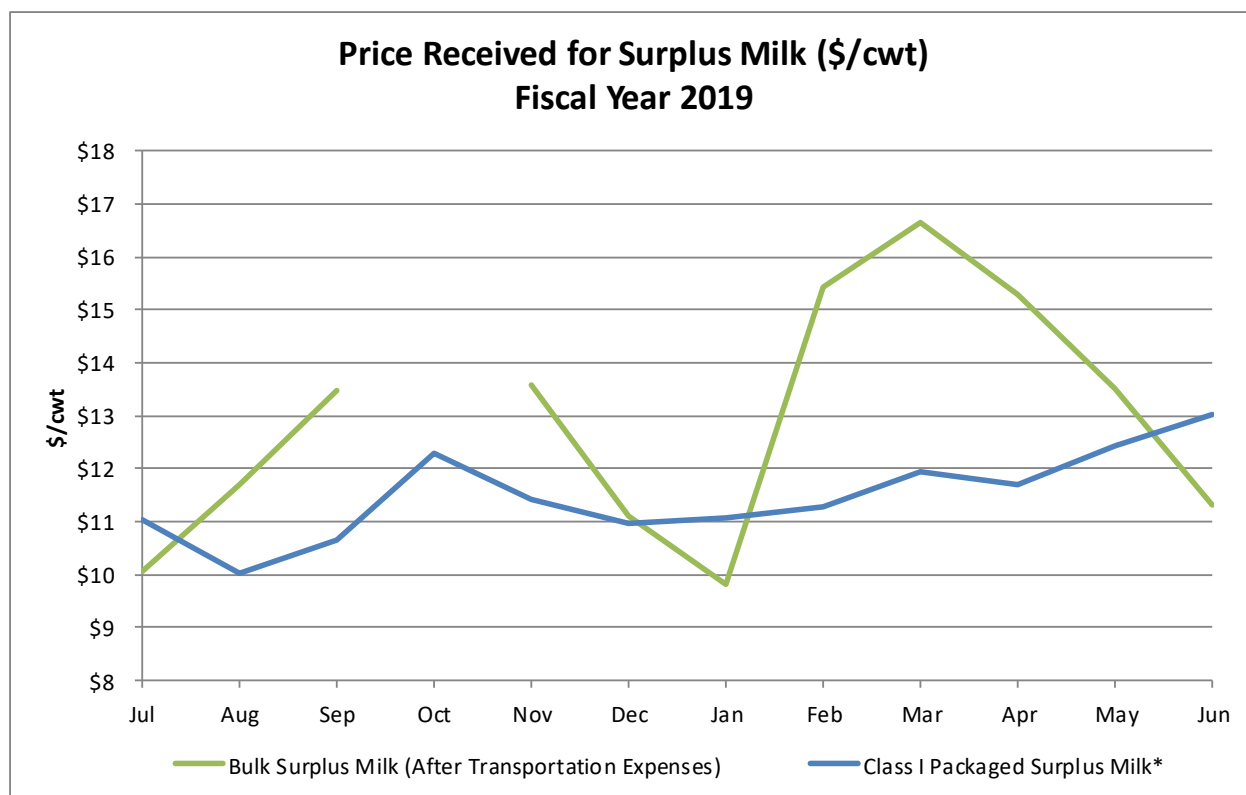


Sales of Surplus Milk

The following two charts show the monthly volume of sales of surplus milk by pool handlers and the unit price received for surplus milk sales after transportation expenses. Bulk surplus milk sales peak in the summer months because less Montana milk is utilized for Class I milk sold to schools and because Montana production peaks in late spring to early summer. With the decrease in pool milk production, there was no bulk surplus milk in October 2018, and September and November each only had a single shipment of bulk surplus milk.

The value received for Class I packaged surplus milk is not directly comparable to the value received for bulk surplus milk (net of transportation expenses) because of the difference in butterfat content. The butterfat content in bulk milk tends to exceed 3.5%, whereas the butterfat content of Class I packaged milk tends to be less than 2%. Butterfat is valuable. For Montana pool milk in fiscal year 2019, butterfat was over 27 times more valuable than skim milk. In determining whether Class I packaged surplus milk sales or bulk surplus milk sales are more economically advantageous to pool producers, an accounting of the value of butterfat removed from the milk processed into Class I packaged surplus milk is needed. Bureau analysis of December 2018 surplus milk sales showed, after considering the bulk cream sales and Class III shrink of milk associated with processing raw milk for Class I packaged milk surplus sales, that the total value of the milk associated with processing surplus milk into Class I products and Class III bulk cream contributed \$15.16/cwt to the pool utilization value. The value of the bulk cream and Class III shrink associated with the surplus Class I packaged milk contributed \$4.88 of the \$15.16/cwt. In comparison, net of transportation expenses, bulk surplus milk marketed to Class III processors contributed \$11.10/cwt to the pool utilization value (\$4.06/cwt less). The bureau believes that the conclusion of this economic comparison is valid for other months, with the economic advantage of processing surplus milk being higher or lower depending on the strength of the Idaho spot market and the transportation expenses included in bulk surplus sales adjustments requested by pool handlers.





*The price received for surplus Class I packaged milk excludes the value of associated cream and shrink.

Adjustments for Surplus Sales

Class I Packaged Surplus Milk

In fiscal year 2019, surplus sales adjustments for Class I packaged surplus milk reduced the utilization value by \$2,291,878 (an approximate \$2.96/cwt negative adjustment on approximately 30% of pool production). Overall, the adjustment for Class I packaged surplus milk sales reduced the value of pool production by approximately \$0.90/cwt.

Bulk Surplus Milk

In fiscal year 2019, surplus sales adjustments for bulk surplus milk reduced the utilization value by \$310,158 (an approximate \$2.95/cwt negative adjustment on approximately 4% of pool production). The adjustment was a negative adjustment every month but February and March 2019. Overall, the adjustment for bulk surplus milk sales reduced the value of pool production by approximately \$0.12/cwt.

Each bulk surplus milk sale is classified (Class I, Class II, or Class III) based upon how the purchasing plant utilizes the milk. In fiscal year 2019, all bulk surplus milk sales were Class III utilizations, and the adjustment was calculated by subtracting the Montana Class III value and transportation expenses from the value received for the sale of bulk surplus milk.

The most significant factor that caused the surplus sales adjustment for bulk surplus milk to be a negative adjustment in fiscal year 2019 is transportation expense. In fiscal year 2019, adjustments for bulk surplus milk transportation expenses totaled \$293,843, averaging

\$2.79/cwt for the related shipments. Transportation expenses are primarily driven by the volume of bulk surplus milk sales and the freight rates for the various combinations of source and destination of the milk.

Combined Adjustments to Pool Milk Utilization Value

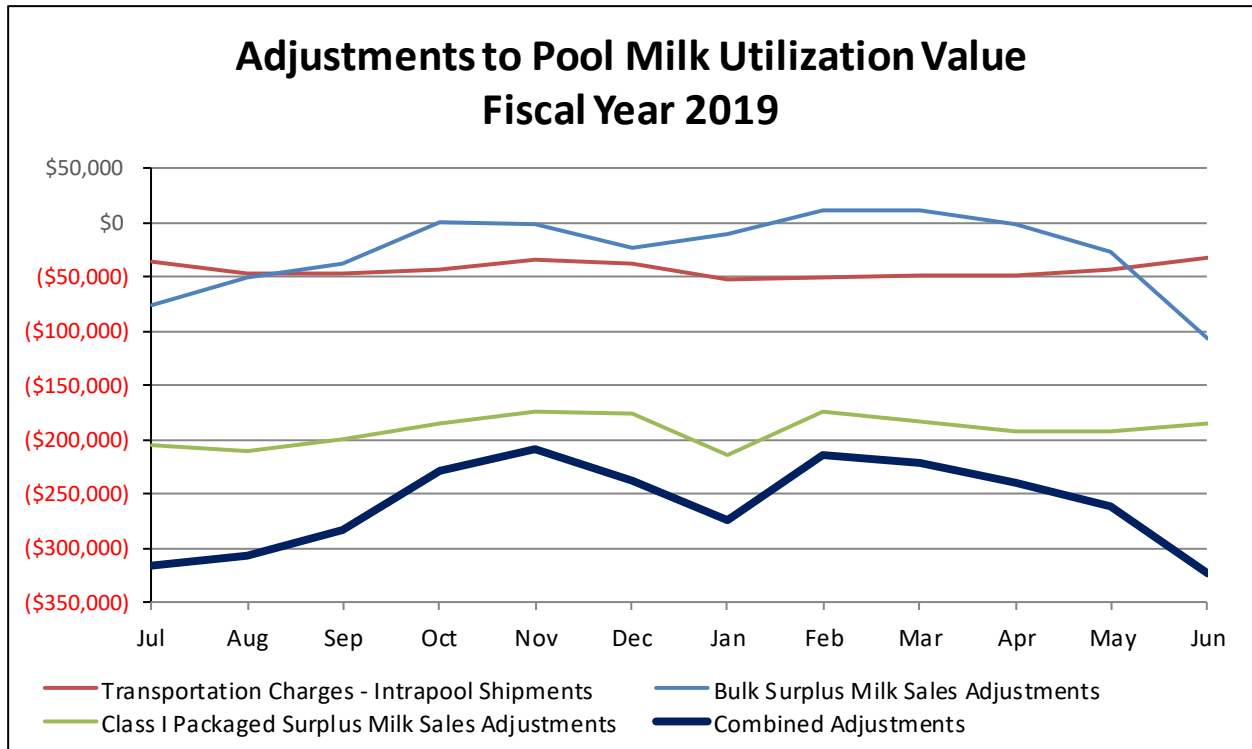
In fiscal year 2019, adjustments made for transportation charges for shipments of unprocessed pool milk between pool plants, Class I packaged surplus milk sales, and bulk surplus milk sales decreased the pool utilization value by about 6.79%. The table below summarizes the adjustments and their impact in terms of dollars per hundredweight of pool production and percentage of unadjusted utilization value.

Adjustments to Pool Milk Utilization Value in Fiscal Year 2019

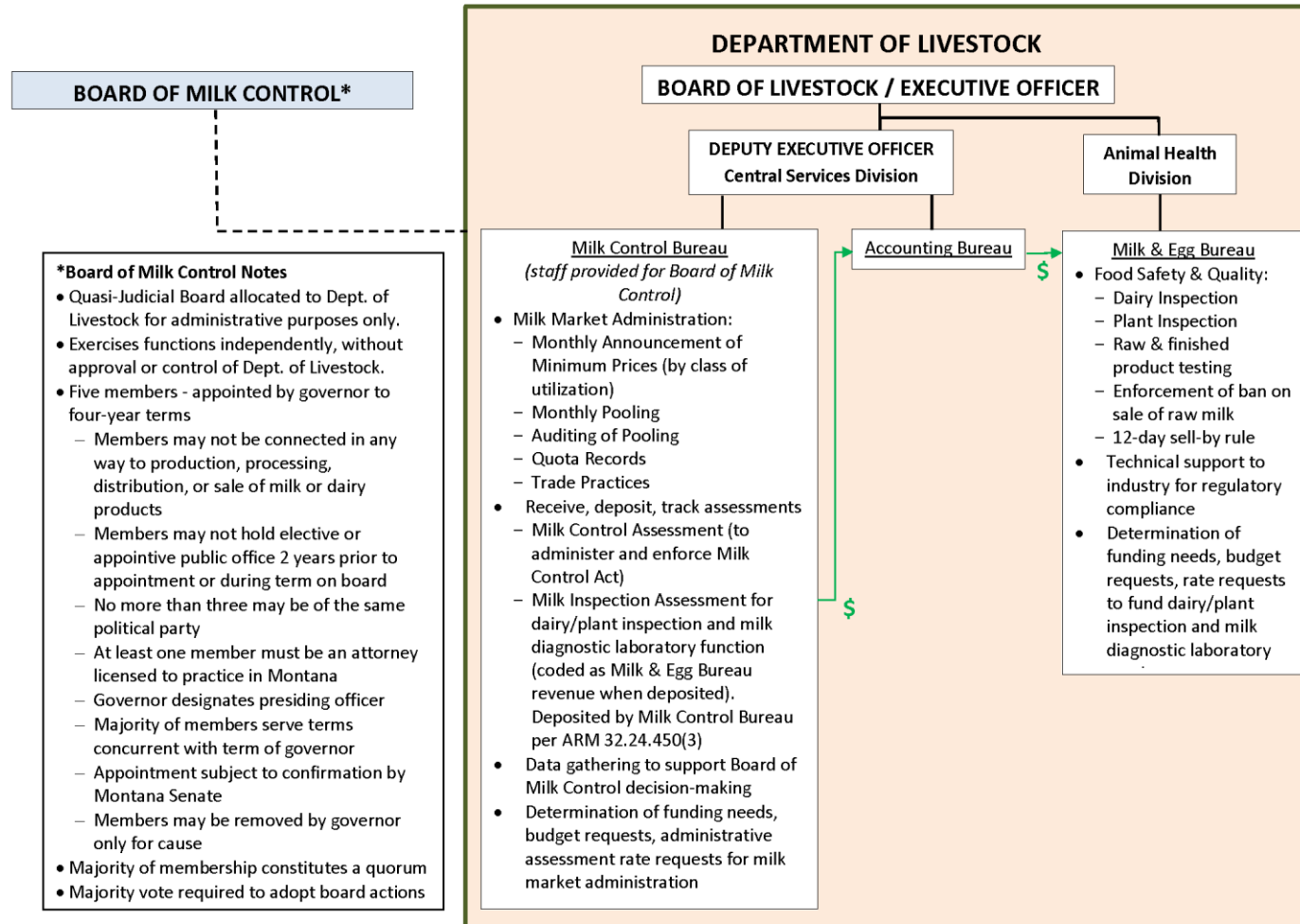
Adjustment Description	Adjustment to Pool Milk Utilization Value (\$)	Adjustment to Pool Milk Utilization Value (\$/cwt of Pool Production)	Adjustment as a Percentage of Unadjusted Utilization Value
Transportation Charges - Intrapool	(\$516,139)	(\$0.2024)	(1.12%)
Class I Packaged Surplus Milk Sales	(\$2,291,878)	(\$0.8985)	(4.99%)
Bulk Surplus Milk Sales	(\$310,158)	(\$0.1216)	(0.68%)
Subtotal	(\$3,118,175)	(\$1.2225)	(6.79%)

	Pool Milk Utilization Value (\$)	Pool Milk Utilization Value (\$/cwt at actual butterfat)
Unadjusted Value	\$45,920,892	\$18.0041
Adjustments	(\$3,118,175)	(\$1.2225)
Adjusted Value	\$42,802,717	\$16.7816

The following chart shows the adjustments made to the pool utilization value throughout fiscal year 2019.



APPENDIX A – BOARD OF MILK CONTROL & RELATIONSHIP WITH MONTANA DEPARTMENT OF LIVESTOCK



APPENDIX B – PENALTY PROCESS SCHEMATIC

