MONTANA BOARD OF MILK CONTROL

MARKET ADMINISTRATION & INDUSTRY REPORT

FISCAL YEAR 2023
ENDED JUNE 30, 2023

MAY 2024

MONTANA DEPARTMENT OF LIVESTOCK

MILK CONTROL PROGRAM

MICHELE SATRE

MONTANA BOARD OF MILK CONTROL

MARKET ADMINISTRATION & INDUSTRY REPORT

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EXECUTIVE SUMMARY

The purpose of the Milk Control Program (program) 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 contains specific provisions enacted to support its policy goals of which some are:

- 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 pertaining to the transaction of business among licensees and the general public
- 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
- 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 Program in Fiscal Year 2023. The Board held two public meetings to discuss staffing changes, committee appointments, legislative bills, the Governor's Red Tape Project, and Fiscal Year 2024 Assessment Rate. The Producer Committee held one meeting to discuss a quota transfer.

Historically, most of the milk produced in Montana is utilized as fluid milk consumed in Montana. In Fiscal Year 2023, Montanans continued with this trend with a majority of the fluid milk consumed originating from Montana bottling plants using milk supplied by Montana producers. The next largest use of Montana-origin milk was ice cream type products, followed by Class II fluid cream products, and finally a small percentage other dairy products.

The program began preparing dairy consumption estimates beginning with Fiscal Year 2015. These estimates measure the Montana consumption trend of: Class I fluid products, fluid cream type products, yogurt, and butter. The Fiscal Year 2023 Montana consumption comparison to Fiscal Year 2022 Montana consumption indicates: Class I fluid products decreased slightly, fluid cream type products decreased measurably, yogurt decreased slightly, and butter continued to increase.

In Fiscal Year 2023 the Montana dairies' production decreased from the previous Fiscal Year. This decrease continues the trend of the marked decline started in Fiscal Year 2019. This was the result of a decline in licensed dairies, which lessened the number of dairy cows that were milked.
In Fiscal Year 2023 Montana had a net increase in exported milk, which consisted of a modest increase in Class I packaged fluid milk and a minimal decrease in bulk raw milk. The net increase can be attributed to a decrease in demand for distributor products in Montana.

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 2023, the 38 pool dairies had a noticeable decrease in production. However, the butterfat content percent rose resulting in an increase in the annual gross receipts from the previous Fiscal Year and the highest weighted average price ever recorded by the Milk Control Program.

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. The minimum prices are highest for pool milk utilized as Class I milk consumed in Montana, which accounted for little over half of pool production in Fiscal Year 2023, increasing slightly from Fiscal Year 2022. The percentage of pool milk utilized as Class I milk consumed in Montana slightly over half of pool production in 2014 and has fluctuated slightly each Fiscal Year up to the current Fiscal Year, with the average remaining at just slightly over half of pool production .

Adjustments to Utilization Value
In Fiscal Year 2023 adjustments were made to the utilization value of producer milk for transportation charges to ship unprocessed pool milk between pool plants (primarily to the pool plant in Billings from the pool plant in Great Falls) and for surplus milk sales, which is surplus milk produced in Montana that is not consumed in Montana. These adjustments reduced the pool utilization value slightly below a dollar per hundred weight.

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.

- Past experience shows that when regulation does not provide for an orderly and profitable marketing of milk, the 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 several 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 2023

The following table shows information about the board members and their terms of appointment. 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 Program and the Milk & Egg Bureau.

Montana Board of Milk Control - Members

Name	Board Position	Residence	Term
Ken Bryan	Chair	Great Falls	1/2021 – 1/2023
Brian C. Beerman	Member	Fairfield	1/2021 – 1/2025
Staci Ketchum	Member	Miles City	1/2021 – 1/2025
W. Scott Mitchell	Member	Billings	1/2021 – 1/2023
Travis Stroh	Member	Glendive	1/2021 – 1/2025

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

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

September 9, 2022, Meeting When the Board met on September 9, 2022, it was introduced to the new staff that had been hired in August 2022. They also voted on Producer Committee appointments choosing: Nelson Kamerman as Chair, Sam Hofer as Vice Chair, John Waldner Jr, Shane Leep, Marvin Porte, Mark Kleinsasser, and Gary Waldner. As part of the Governor's Red Tape Review Project the Board reviewed Statute 81-23-102. They proposed changes to update the language by removing any unnecessary language, thus simplifying the statute. The Program brought to the Board the matter of the amendment of ARM 32-24-480 pertaining to producer pricing rules. This also was part of the Governor's Red Tape Project, and would remove outdated language from the current rule, which would have no financial or other impacts on the rule. The last matter brought to the board was the amendment of; ARM 32-24-504 pertaining to the transfer of quota

and ARM 32-24-505 pertaining to reassignment of quota from the unassigned quota pool and readjustment of quota into the statewide quota system. The changes would 1) add language for a mandatory 10% reduction of the balance of any quota when being transferred and 2) remove the re-assigning of unassigned quota in the pool. These changes were in response to the performance audit of milk market regulation report for FY2022. The board, in collaboration with the milk producers agreed to establish a 10% reduction on quota transfers and implement the forfeiture of unassigned quota. This change will have no immediate financial impact on current producers and, over time, should increase the value of their quota remaining in the system. The board adopted all the proposed changes at the meeting.

December 9, 2022, Meeting When the Board met on December 9, 2022, the focus of the meeting was for the Board to discuss the milk control assessment rates for Fiscal Year 2024. The board voted to reduce the rate by 9.47% as an attempt to reduce the surplus that has been accumulating over the past several years. The new rate will be $0.0215/cwt for FY2024.

PRODUCER COMMITTEE – ACTIVITY IN FISCAL YEAR 2023

The producer committee is provided for 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 that is sold unprocessed in bulk. Pool handlers may also relinquish the responsibility to market bulk surplus milk to the Committee.

The following table shows the current Producer Committee members elected by the Board of Milk Control for the 2022 – 2023 term.

Producer Committee Members 2022 – 2023 Term:

Producer Name	Committee Position	Pool Plant Receiving Milk	Dairy Name
Nelson Kamerman	Chair	Darigold – Bozeman	Dairyland Farms
Sam Hofer	Vice-Chair	Meadow Gold – Great Falls	Surprise Creek Colony Dairy
Mark Kleinsasser	Member	Meadow Gold – Billings	Mountain View Colony Dairy
Shane Leep	Member	Darigold - Bozeman	Leep Dairy
John Waldner Jr	Member	Meadow Gold – Great Falls	Fairhaven Colony Dairy
Gary Waldner	Member	Meadow Gold – Great Falls	Hartland Dairy
Marvin Porte	Member	Darigold – Bozeman	Moiese Valley Ranch

June 23, 2023, Producer Committee Meeting The committee met via conference call to vote on a quota transfer request. The transfer was approved, making it the first quota transfer approval since the quota transfer rule change which mandates the forfeiture of 10% of the quota balance when quota is transferred.

LICENSING SUMMARY

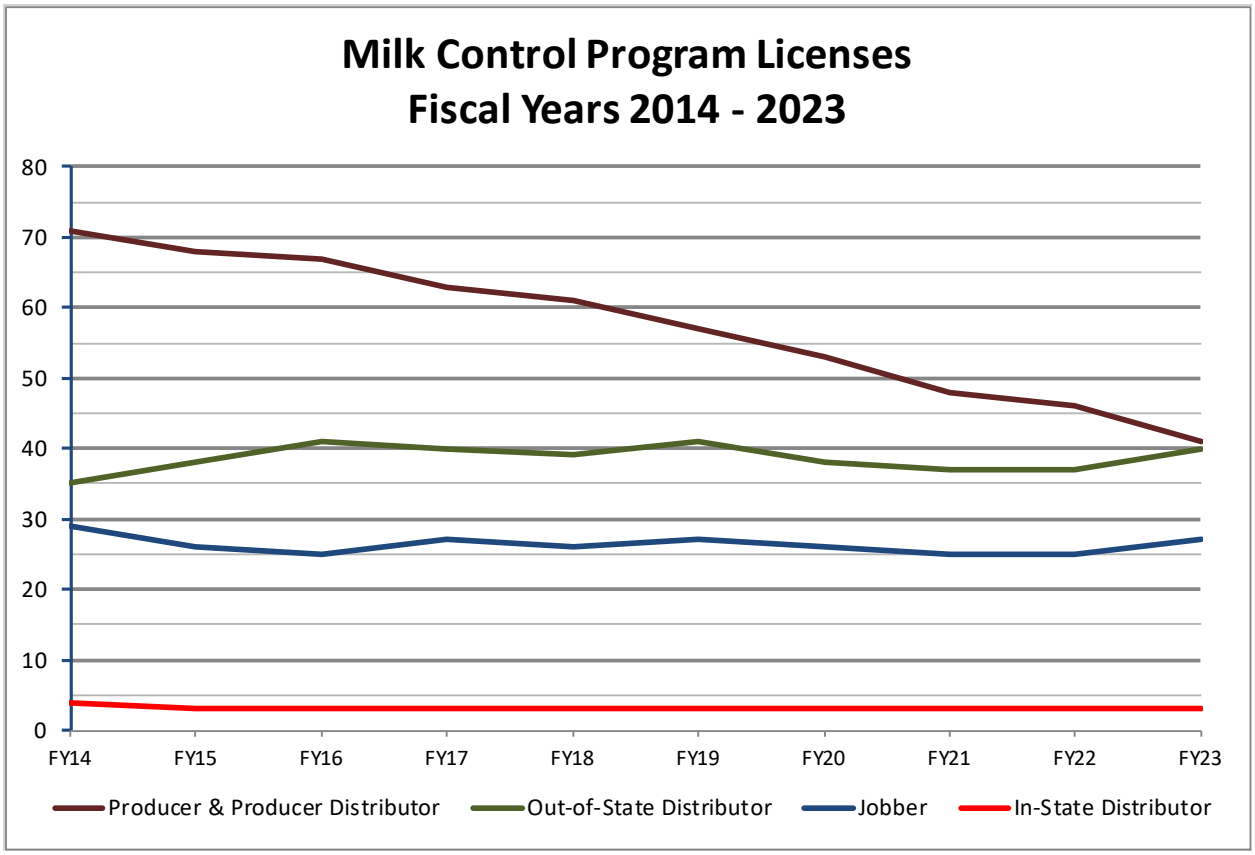
The program issues licenses to producers, producer-distributors, distributors, and jobbers (a class of distributors that purchase and resell milk). The following table shows the number of licenses issued in Fiscal Year 2023 for each type of business. Licenses are issued on an annual

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 2023

License Type	Number of Licenses
Producer	38
Producer-Distributor	3
In-State Distributor	3
Out-of-State Distributor	40
Jobber	27

The following chart shows the number of licenses issued for each license type for Fiscal Year 2014 through Fiscal Year 2023, combining the number of producers and producer-distributors. The chart reflects consolidation affecting the milk industry.



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 program.

As required by statute, the board considered the Fiscal Year 2024 assessment rates (at its December 9, 2022, meeting) and took action to reduce assessment rates for Fiscal Year 2024. At the time of the meeting, the program projected that the program's cash balance would decrease by approximately $23,809 during Fiscal Year 2024 but that sufficient funds would be available to administer the act.

Assessment Rates by License Type for Fiscal Year 2023 & Fiscal Year 2024

License Type	FY2023 Assessment Rates	FY2024 Assessment Rates
Producer	$0.02375/cwt	$0.02150/cwt
Distributor	$0.02375/cwt	$0.02150/cwt
Producer-Distributor	$0.04750/cwt	$0.04300/cwt

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 program 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 years prior to Fiscal Year 2019 for several products.

Pool handlers (Meadow Gold and Darigold) 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 Program."

FISCAL YEAR 2023: 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, Buttermilk, Eggnog	12,436,304	59.59%	8,433,003	40.41%	20,869,307
CLASS II					
Fluid/Whip (gallons)					
Half and Half	51,943	4.71%	1,050,336	95.29%	1,102,278
Whipping Cream	97,373	9.06%	977,381	90.94%	1,074,754
Creamers			612,086	100.00%	612,086
Aerosol Whip			131,806	100.00%	131,806
Uncultured (gallons)					
Ice Cream / Mix / Ice Milk / Novelties	645,041	13.44%	4,154,902	86.56%	4,799,943
Frozen Yogurt / Mix			231,518	100.00%	231,518
Cultured (pounds)					
Cottage Cheese	145,521	4.04%	3,453,101	95.96%	3,598,621
Sour Cream & Dressings			5,618,452	100.00%	5,618,452
Yogurt / Kefir	517,909	3.29%	15,215,892	96.71%	15,733,801
CLASS III (pounds)					
Cream Cheese			2,191,188	100.00%	2,191,188
Cheese	63,026	0.22%	27,977,149	99.78%	28,040,175
Butter	5,696	0.06%	10,283,437	99.94%	10,289,133

DAIRY PRODUCT MILK EQUIVALENT FACTORS USED BY THE MILK CONTROL PROGRAM

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
Shake 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. Low-fat 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 2023: MONTANA ESTIMATED DAIRY CONSUMPTION – BY MILK EQUIVALENT WEIGHT

Class / Type / Product	Products from Montana Plants *(lbs. milk equivalent)*	Products from Out-of-State Plants *(lbs. milk equivalent)*	Total Consumption Estimate *(lbs. milk equivalent)*
CLASS I			
White & Flavored Milk, Buttermilk, Eggnog	118,772,978	61,898,545	180,671,523
TOTAL CLASS I	**118,772,978**	**61,898,545**	**180,671,523**
CLASS II			
Fluid/Whip			
Half and Half	650,845	13,160,705	13,811,550
Whipping Cream	1,209,741	25,695,012	26,904,753
Creamers		7,669,441	7,669,441
Aerosol Whip		2,298,700	2,298,700
Subtotal	**1,860,586**	**48,823,857**	**50,684,443**
Uncultured			
Ice Cream / Mix / Ice Milk / Novelties	7,299,563	35,775,595	43,075,158
Frozen Yogurt / Mix		2,298,950	2,298,950
Candy Products			
Subtotal	**7,299,563**	**38,074,546**	**45,374,109**
Cultured			
Cottage Cheese	205,184	5,370,194	5,575,378
Sour Cream & Dressings		10,390,415	10,390,415
Yogurt / Kefir	476,476	14,236,807	14,713,283
Subtotal	**681,660**	**29,997,416**	**30,679,076**
TOTAL CLASS II	**9,841,809**	**116,895,819**	**126,737,628**
CLASS III			
Cream Cheese		7,910,406	7,910,406
Cheese	623,961	137,089,010	137,712,971
Butter	11,392	66,970,722	66,982,114
TOTAL CLASS III	**635,353**	**211,970,138**	**212,605,491**

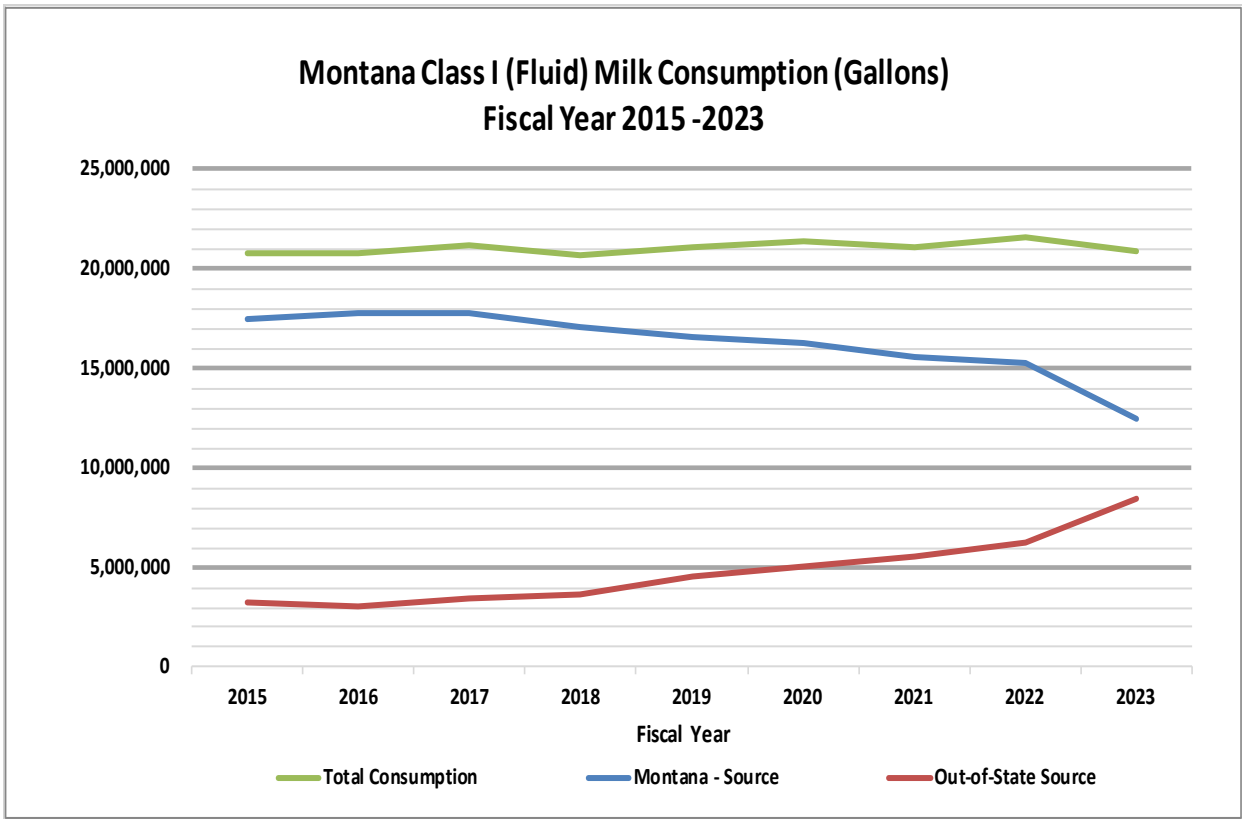
SUMMARY

Most of the milk produced in Montana is utilized for fluid milk consumed in Montana. In Fiscal Year 2023, an estimated 20.9 million gallons of fluid milk were consumed in Montana, 59.59% 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 (ice cream, ice milk, and frozen yogurt). An estimated 4.8 million gallons of ice cream type products were consumed in Montana, 13.44% of which was manufactured by Montana plants. Approximately 5.11% 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 program began preparing dairy consumption estimates beginning with Fiscal Year 2015. The following describes some observed trends.

- **Class I Fluid Products** The estimated consumption of Class I fluid milk products in Montana since Fiscal Year 2015 is relatively flat (0.08% average annual increase). Fiscal Year 2023 saw a 3.47% decrease in the consumption of Class I milk products while Fiscal Year 2022 saw an increase of 2.45%. Nationally, since 2015, annual per capita fluid milk consumption experienced an annual decline of close to or over 2% in all but three years. Montana's population growth rate of approximately 1% per year from 2012 to 2022 has offset some of the impact of declining per capita fluid milk consumption occurring in Montana. The percentage of Class I milk consumed in Montana that originated in Montana plants in Fiscal Year 2023 was 29% lower than Fiscal Year 2015. Fiscal Year 2023 consumption was almost 20% lower than in Fiscal Year 2022, this can be attributed to an increase in out-of-state Class I milk products being consumed in Montana. USDA Economic Research Service data shows that, for the last decade, consumption of whole milk has trended higher, and consumption of skim milk has trended lower.
- **Fluid Cream Type Products** Estimates indicate that consumption of fluid cream type products increased by 6.9% annually (on average) since Fiscal Year 2015.
- **Ice Cream Type Products** Estimates indicate that consumption of ice cream type products decreased by 17.4% in Fiscal Year 2023 following an 11% decrease in Fiscal Year 2022. This is followed by a 5.7% annual increase (on average) between the Fiscal Years 2015 - 2021. *(The authors note that estimating consumption of ice cream type products is more difficult and not as straight forward as estimating fluid milk consumption.)*
- **Yogurt** Estimates indicate yogurt consumption decreased by 3.67% in Fiscal Year 2023 following a 1.3% annual decrease (on average) in Fiscal Years 2018 - 2022 after a double digit increases in Fiscal Years 2016 and 2017.
- **Butter** The estimated butter consumption increased 2.41% in Fiscal Year 2023 following an increase of 4.75% in Fiscal Year 2022 and a 2.29% annual increase (on average) in Fiscal Years 2019 – 2021.

The U.S. Census Bureau estimates that Montana's population in 2022 was 1.1 million. Worldpopulationreview.com also estimates Montana's population in 2022 at 1.1 million. Montana experienced modest population growth of approximately 1.0% per year from 2013 to 2022. 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 12.5 million nonresident visits in 2022. The average duration of a visit in 2022 was 5.0 nights according to the University of Montana Institute for Tourism & Recreation Research's interactive report for Montana.



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 combines the federal 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 establishes 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 following table illustrates the application of the Montana Class I price formulas for June 2023.

Montana Class I Price Computations per ARM 32.24.480(2) for June 2023	
Federal Order Base Class I Price for Milk Testing 3.5% Butterfat ($/cwt)	$18.01
Plus: Montana Differential ($/cwt)	$2.55
Montana Class I Milk Price for Milk Testing 3.5% Butterfat ($/cwt)	**$20.56**
Federal Order Advanced Butterfat Pricing Factor ($/lb.)	$2.7412
Plus: Montana Differential ($/lb.)	$0.0255
Montana Class I Butterfat Price ($/lb.)	**$2.7667**
Value of Montana Class I Butterfat at 3.5 lbs.	$9.68345
Value of Montana Class I Skim Milk at 96.5 lbs.	$10.87655
Montana Class I Milk Price for Milk Testing 3.5% Butterfat ($/cwt)	**$20.56000**

Montana Class II & Class III

The Montana Class II and Class III price formulas 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 Montana Class III Butterfat Price formula subtracts the Montana Class III Butterfat Price Differential from the Advanced Butterfat Pricing Factor. The following tables illustrate the application of the Montana Class II and Class III price formulas for June 2023.

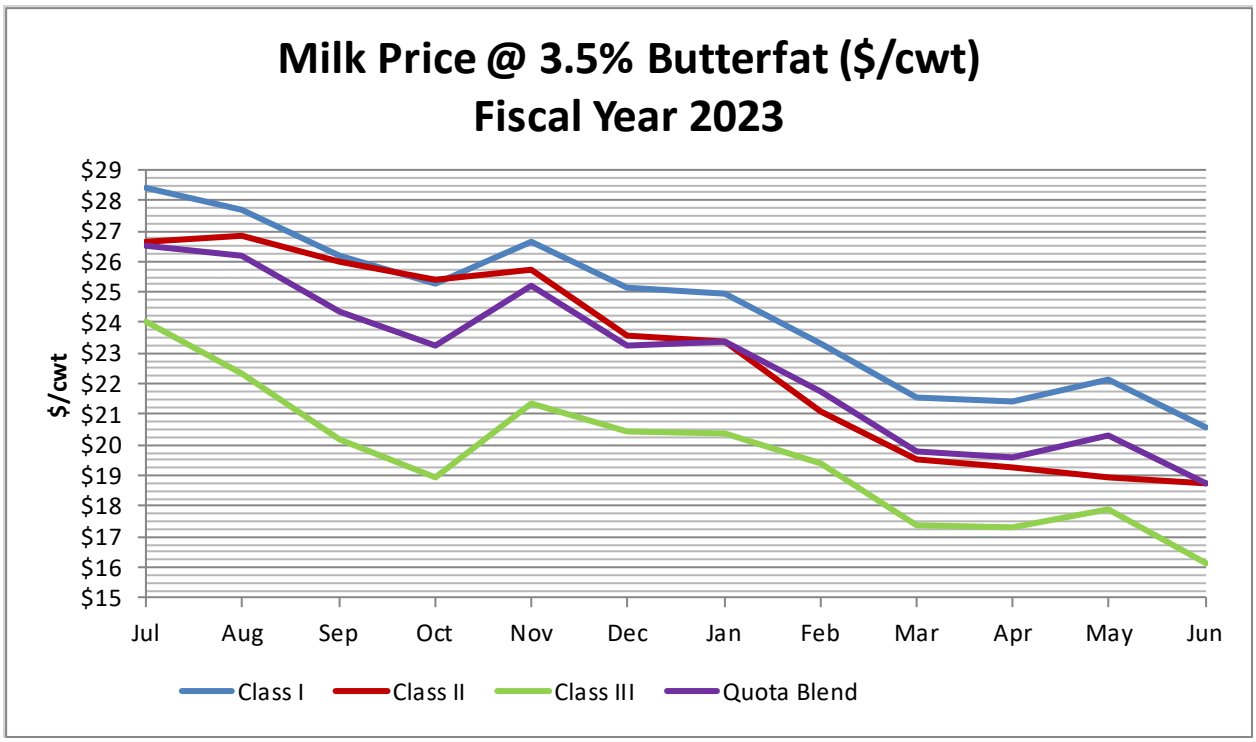
Montana Class II Price Computations per ARM 32.24.480(3) for June 2023	
Advanced Butterfat Pricing Factor ($/lb.)	$2.7412
Plus: $0.007/lb. ($/lb.)	$0.0070
Montana Class II Butterfat Price ($/lb.)	**$2.7482**
Montana Class II Skim Milk Price ($/lb.): Federal Class II Skim Milk Price converted to units of dollars per pound of skim milk	**$0.0948**
Value of Montana Class II Butterfat at 3.5 lbs.	$9.61870
Value of Montana Class II Skim Milk at 96.5 lbs.	$9.14820
Montana Class II Milk Price for Milk Testing 3.5% Butterfat ($/cwt)	**$18.76690**

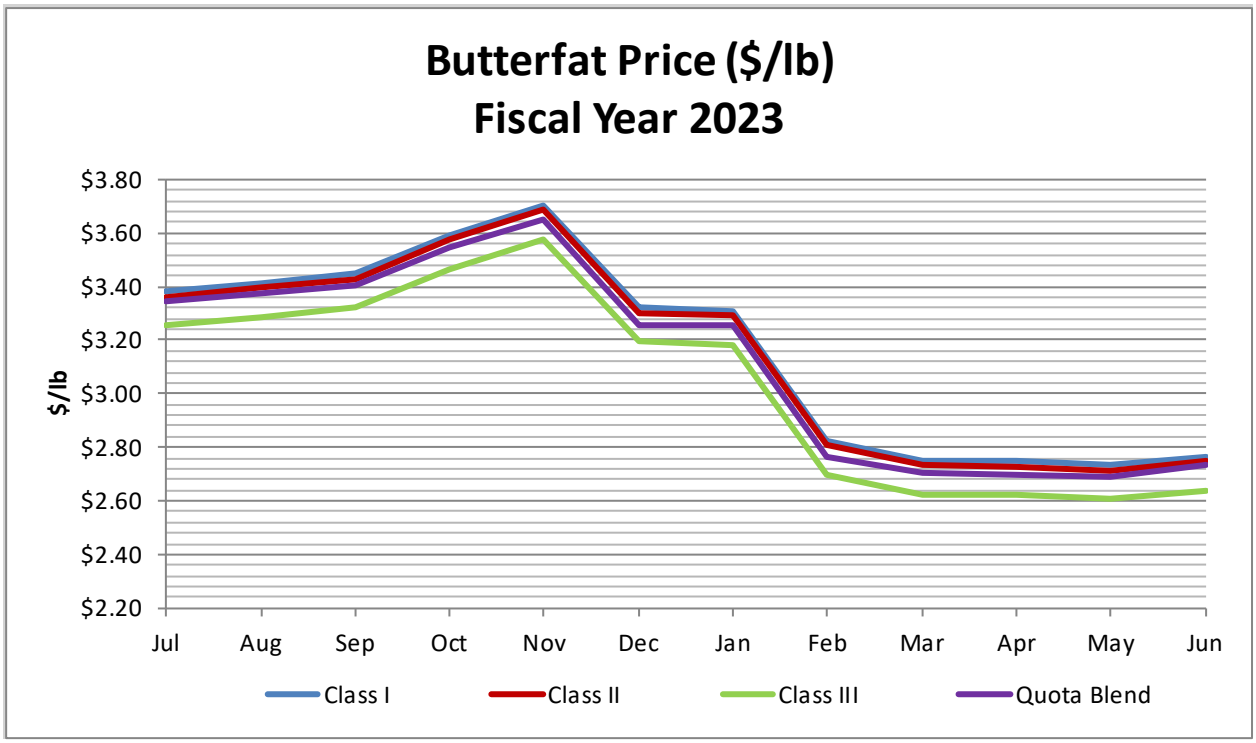
Montana Class III Price Computations per ARM 32.24.480(4) for June 2023	
Advanced Butterfat Pricing Factor ($/lb.)	$2.7412
Less: Montana Class III Butterfat Price Differential ($/lb.)	($0.1000)
Montana Class III Butterfat Price ($/lb.)	**$2.6412**
Federal Class III Skim Milk Pricing Factor ($/cwt)	$7.17
Federal Class IV Skim Milk Pricing Factor ($/cwt)	$8.78
Montana Class III Skim Milk Price ($/lb.): *lower of Class III or Class IV Skim Milk Pricing Factor, converted to units of dollars per pound of skim milk*	**$0.0717**
Value of Montana Class III Butterfat at 3.5 lbs.	$9.24420
Value of Montana Class III Skim Milk at 96.5 lbs.	$6.91905
Montana Class III Milk Price for Milk Testing 3.5% Butterfat ($/cwt)	**$16.16325**

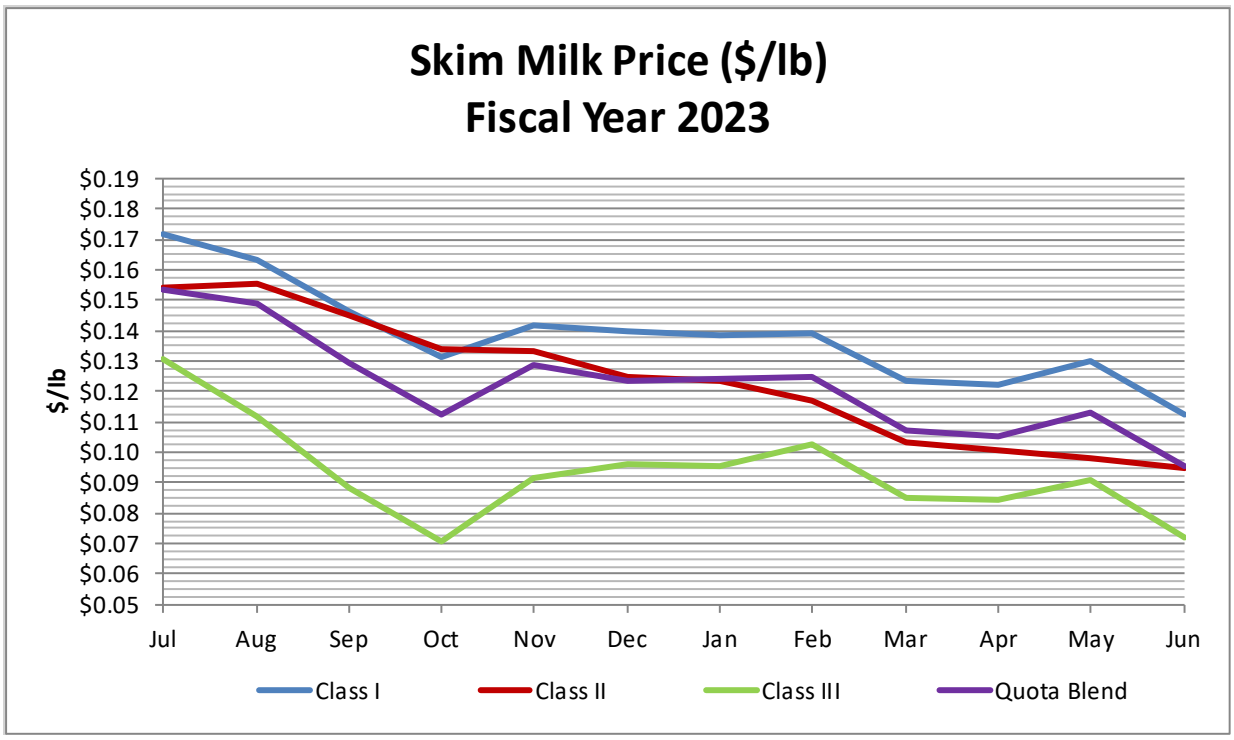
ANNOUNCED MINIMUM PRICES IN FISCAL YEAR 2023

Cows generally 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 2023 (July 2022 – June 2023) along with the calculated quota price based on actual milk utilization.

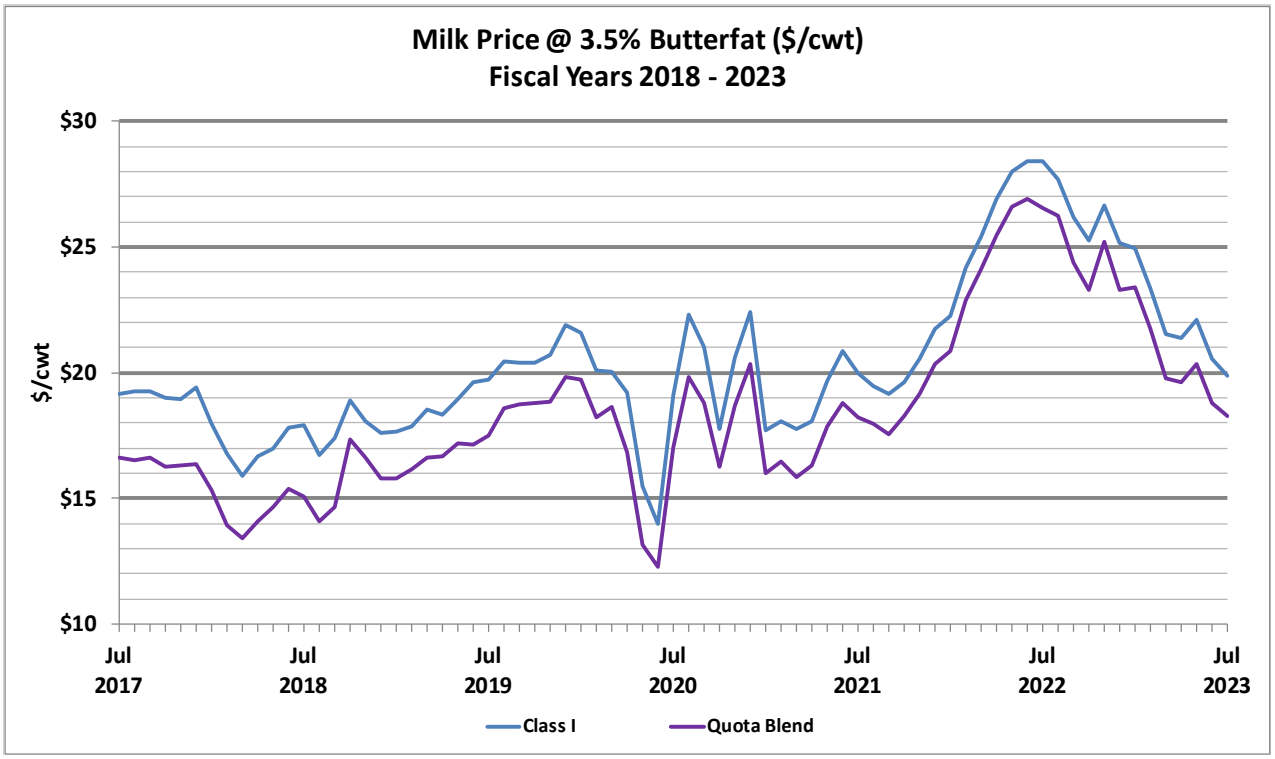

Milk Price @ 3.5% Butterfat ($/cwt)
Fiscal Year 2023
$/cwt
$29
$28
$27
$26
$25
$24
$23
$22
$21
$20
$19
$18
$17
$16
$15
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Class I
Class II
Class III
Quota Blend

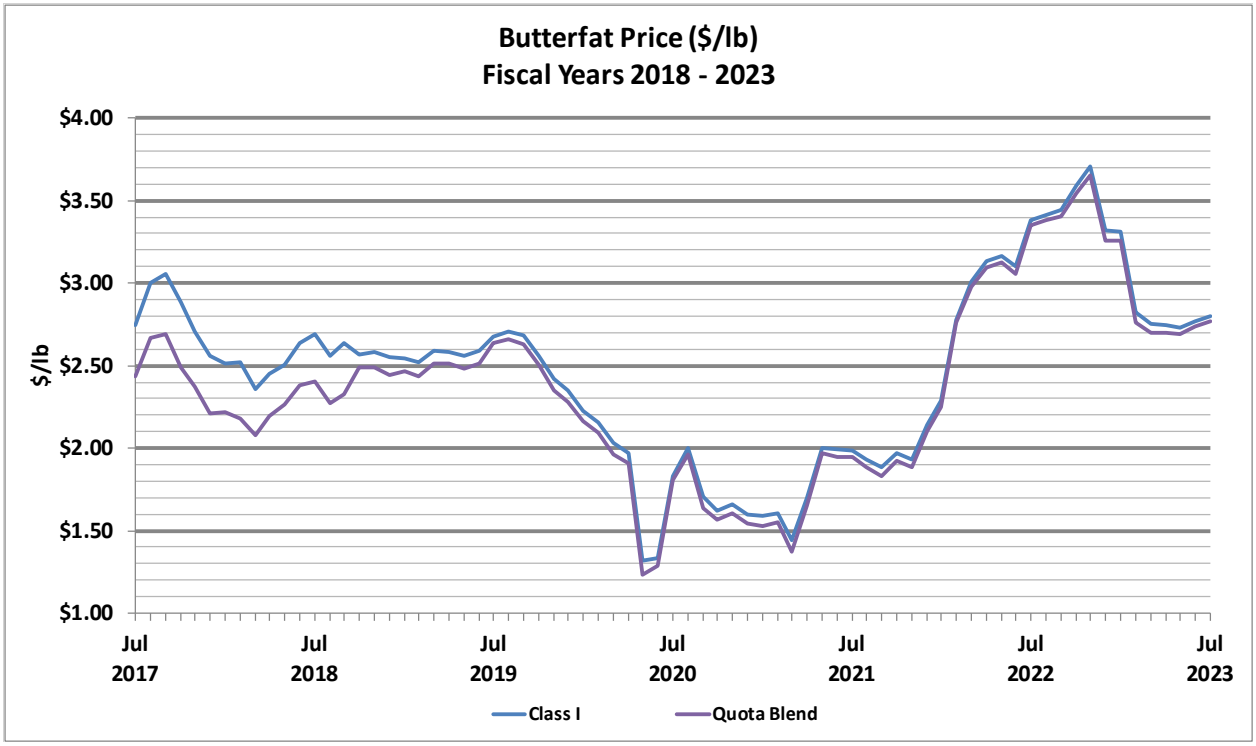

Butterfat Price ($/lb)
Fiscal Year 2023
$/lb
$3.80
$3.60
$3.40
$3.20
$3.00
$2.80
$2.60
$2.40
$2.20
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Class I
Class II
Class III
Quota Blend

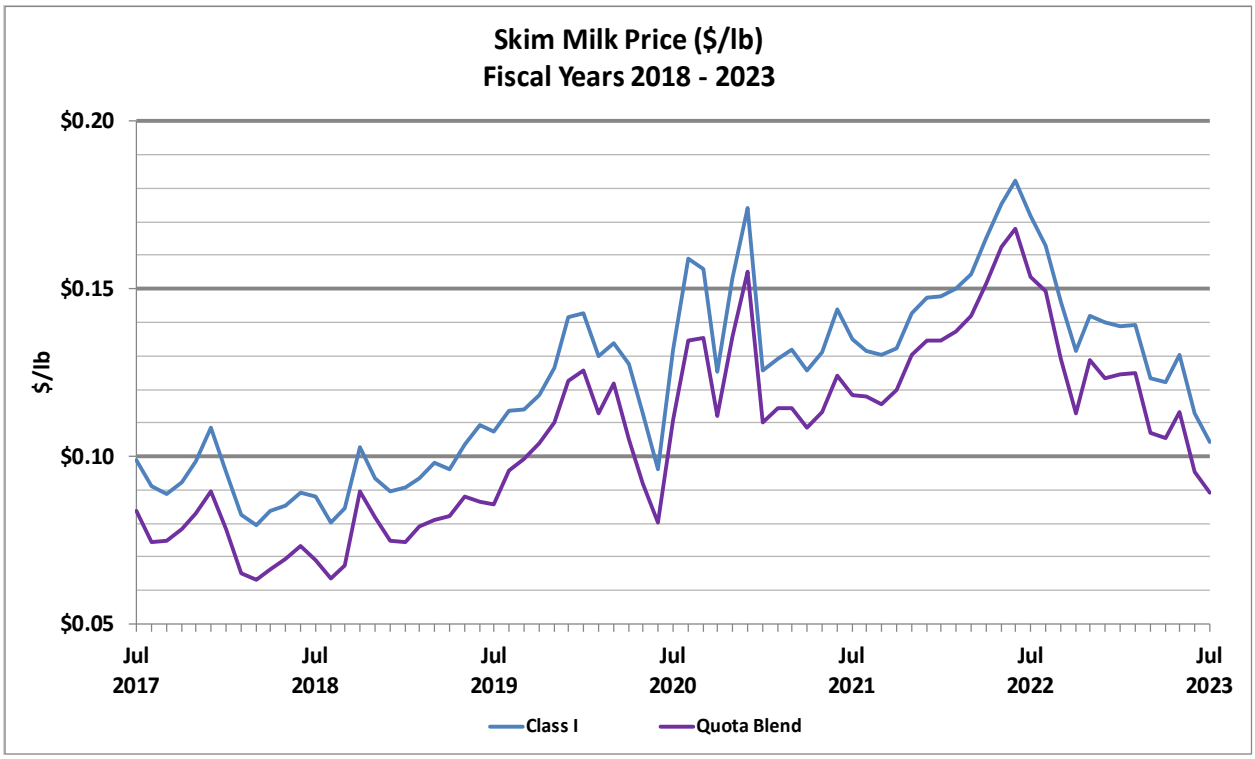


PRICE CHARTS JULY 2017 – JULY 2023

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.




Butterfat Price ($/lb)
Fiscal Years 2018 - 2023
$4.00
$3.50
$3.00
$2.50
$2.00
$1.50
$1.00
$/lb
Jul 2017
Jul 2018
Jul 2019
Jul 2020
Jul 2021
Jul 2022
Jul 2023
Class I
Quota Blend

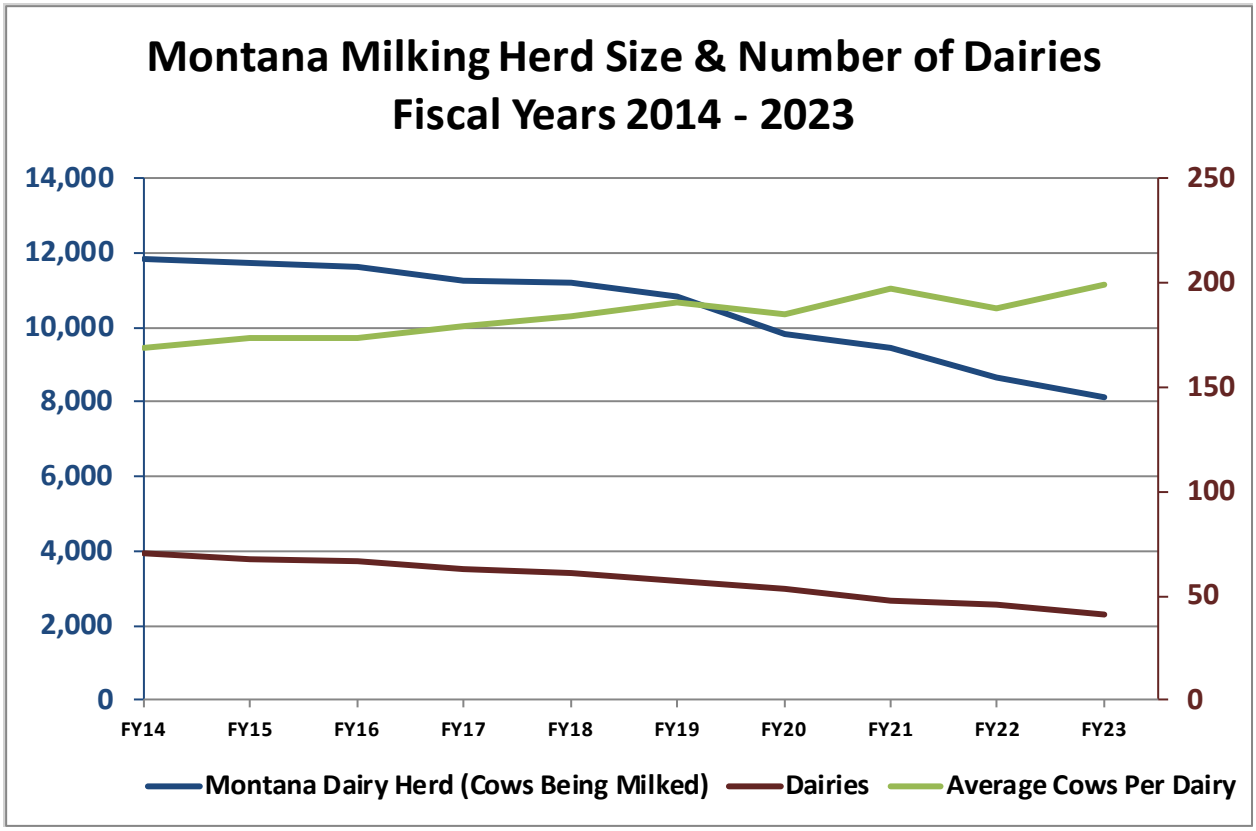

Skim Milk Price ($/lb)
Fiscal Years 2018 - 2023
$0.20
$0.15
$0.10
$0.05
$/lb
Jul 2017
Jul 2018
Jul 2019
Jul 2020
Jul 2021
Jul 2022
Jul 2023
Class I
Quota Blend

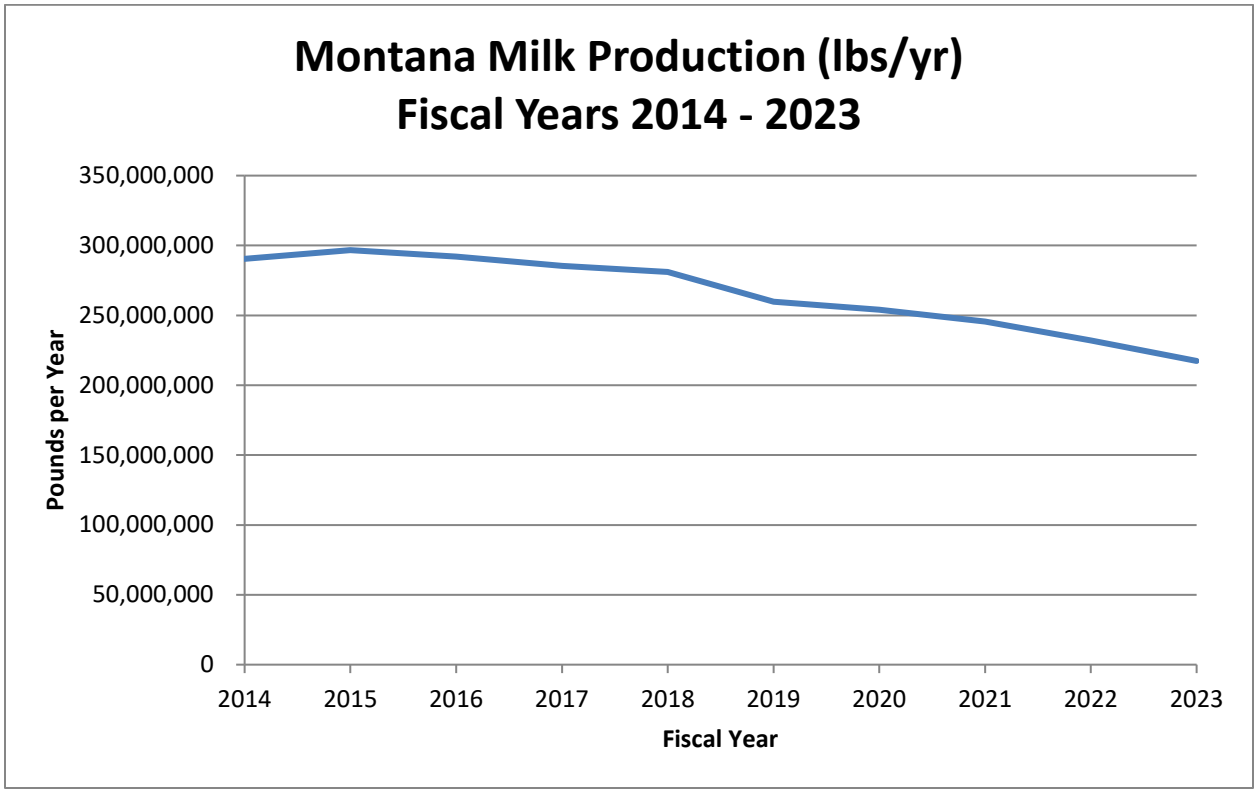
MONTANA MILK PRODUCTION

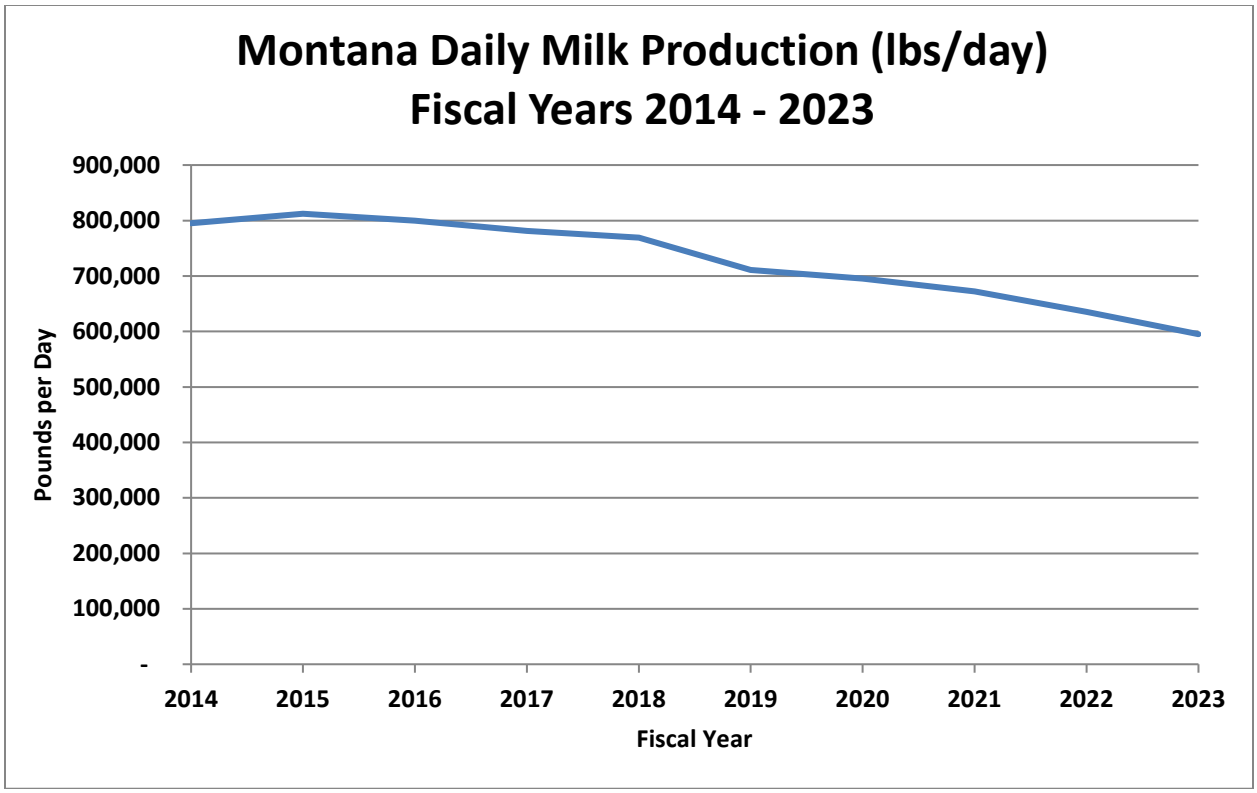
Dairies that participate in Montana's pool marketing system account for most of Montana's milk production. These dairies supply milk to Darigold's processing plant in Bozeman and Meadow Gold's processing plants in Great Falls and Billings. Dairies that are licensed as producer-distributors account for the rest of Montana milk production. The map on page 26 shows the counties in which dairies are licensed to operate in the Fiscal Year 2023.

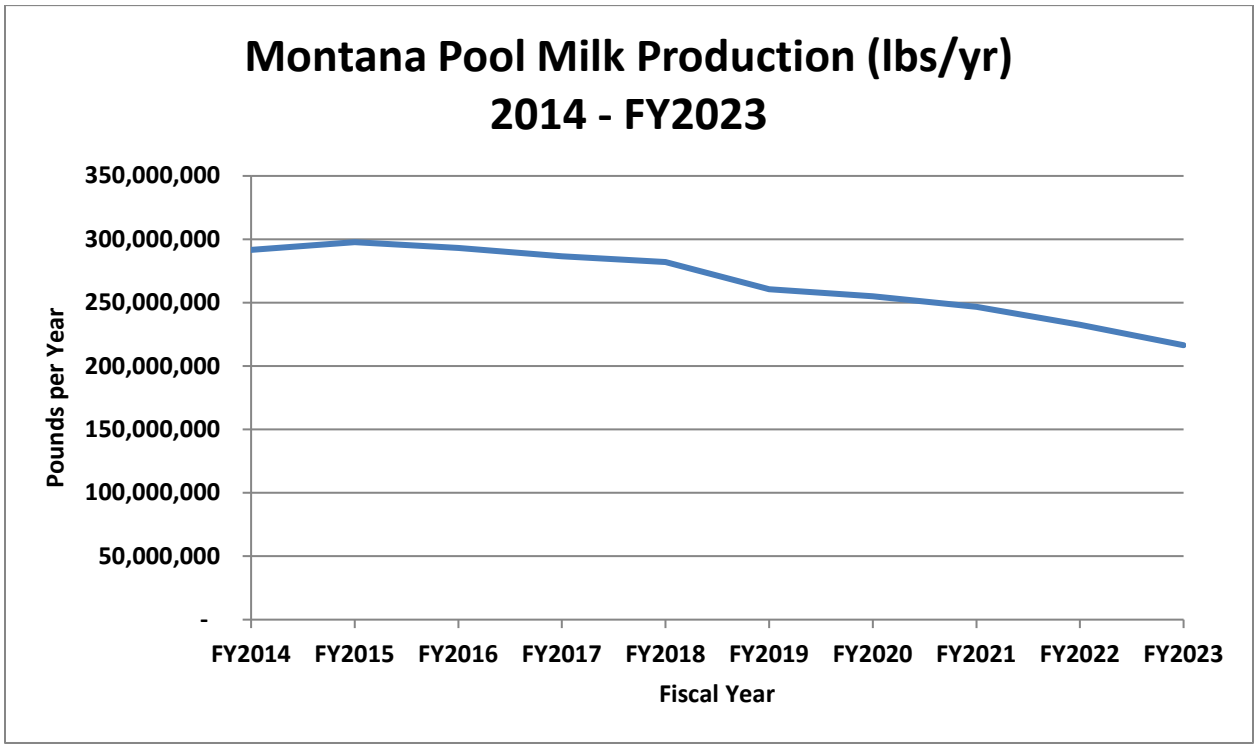
In Fiscal Year 2023 the Montana pooling dairies produced approximately 214 million pounds of milk, down 11.5 million pounds from Fiscal Year 2022. Pooling milk production was reasonably stable starting in Fiscal Year 2014 until a marked decline in Fiscal Year 2019 of approximately 21.2 million pounds from the previous Fiscal Year. The yearly pounds continued to decline, with a high of 255 million in 2019 and a low of 214 million pounds in Fiscal Year 2023. This can be mostly attributed to the decline of licensed pooling dairies from 69 to 38 and the decline of the number of milked cows from 11,850 to 7,996 in this time period.

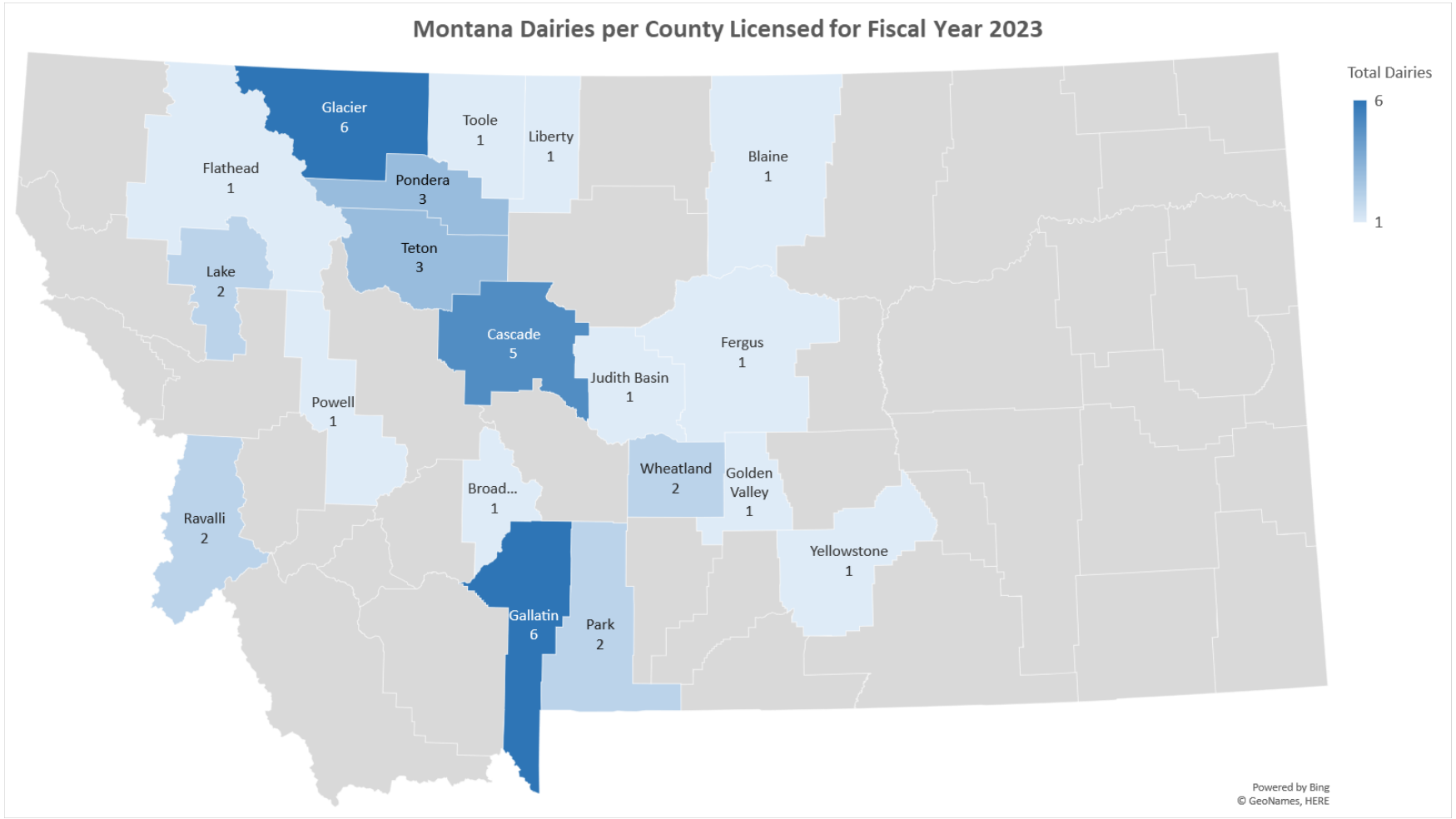
The following charts show the size of Montana's dairy herds, for producers and producer-distributors and the number of dairies licensed in Fiscal Year 2014 through Fiscal Year 2023, Montana milk production from 2014 through Fiscal Year 2023, and total milk production (per year and per day) for Fiscal Year 2014 through Fiscal Year 2023. The size of Montana's milking herd is based on information provided by producers and producer-distributors in annual license applications. From Fiscal Year 2014 to Fiscal Year 2023, the number of cows being milked declined by 31.27%, while the number of dairies declined by 41.43%. The average number of cows being milked per dairy increased from 169 cows per dairy in Fiscal Year 2014 to 199 cows per dairy in Fiscal Year 2023. 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 2023 was 26.84% lower than in 2014, with most of the decrease occurring in Fiscal Year 2023. Production in Fiscal Year 2023 was the lowest in 10 years and was 23.89% lower than the average of the 2014 – 2023 time period.


Montana Milking Herd Size & Number of Dairies
Fiscal Years 2014 - 2023
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
250
200
150
100
50
0
FY14
FY15
FY16
FY17
FY18
FY19
FY20
FY21
FY22
FY23
Montana Dairy Herd (Cows Being Milked)
Dairies
Average Cows Per Dairy


Montana Milk Production (lbs/yr)
Fiscal Years 2014 - 2023
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
0
Pounds per Year
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Fiscal Year


Montana Daily Milk Production (lbs/day)
Fiscal Years 2014 - 2023
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
-
Pounds per Day
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Fiscal Year


Montana Pool Milk Production (lbs/yr)
2014 - FY2023
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
-
Pounds per Year
FY2014
FY2015
FY2016
FY2017
FY2018
FY2019
FY2020
FY2021
FY2022
FY2023
Fiscal Year


Montana Dairies per County Licensed for Fiscal Year 2023
Total Dairies
6
1
Glacier
6
Toole
1
Liberty
1
Blaine
1
Flathead
1
Pondera
3
Teton
3
Lake
2
Cascade
5
Fergus
1
Judith Basin
1
Powell
1
Wheatland
2
Golden
Valley
1
Broad...
1
Ravalli
2
Yellowstone
1
Gallatin
6
Park
2
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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 2023, pool handlers imported 46.67 million pounds of bulk unpasteurized milk, an average of approximately 3.89 million pounds per month. In comparison, Montana producers delivered almost 209.6 million pounds of milk to pool handlers in Fiscal Year 2023, an average of approximately 17.47 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 12.56 million pounds in Fiscal Year 2023.

The bulk milk imports are partially 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 2023 in units of pounds of milk equivalent calculated on a milk solids basis.

Estimated Montana Dairy Product Imports – Fiscal Year 2023

Product Description	Imports (lbs. milk equivalent)
Class I Fluid Milk Products	61,898,545
Class II Fluid Cream Products	48,823,857
Class II Uncultured Products *(ice cream & frozen yogurt)*	38,074,546
Class II Cultured Products *(cottage cheese, sour cream, yogurt)*	29,997,416
Class III Products *(cream cheese, cheese, butter)*	211,970,138

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. In Fiscal Year 2023 Montana exported approximately 113.4 million pounds of pool milk consisting of approximately 102.6 million pounds of Class I packaged fluid milk products and approximately 2.2 million pounds of bulk raw milk. This is an increase in Class I packaged fluid milk product of 5.9 million pounds and a decrease in bulk raw milk of 0.6 million pounds from the previous Fiscal Year. The program estimates that approximately 8.6 million pounds of bulk cream exported from Montana could have produced approximately 4.3 million pounds of butter. In Fiscal Year 2023, approximately 10.3 million pounds of butter were consumed in Montana, almost all of it imported from outside of Montana.

Montana Milk Exports – Fiscal Year 2023

Product Description	Exports (lbs.)
Bulk Cream	8,597,512
Bulk Milk	2,171,680
Class I Packaged Fluid Milk Products	102,625,650
Total	**113,394,842**

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. 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 (of 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 0.35% of production in Fiscal Year 2023, down from 0.84% in Fiscal Year 2022.

Montana's quota system allows for additional quota to be allocated and requires transferred 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 2022, 62.2% 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 11.7 million pounds compared to calendar year 2020. Because of a 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 forfeit all 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.

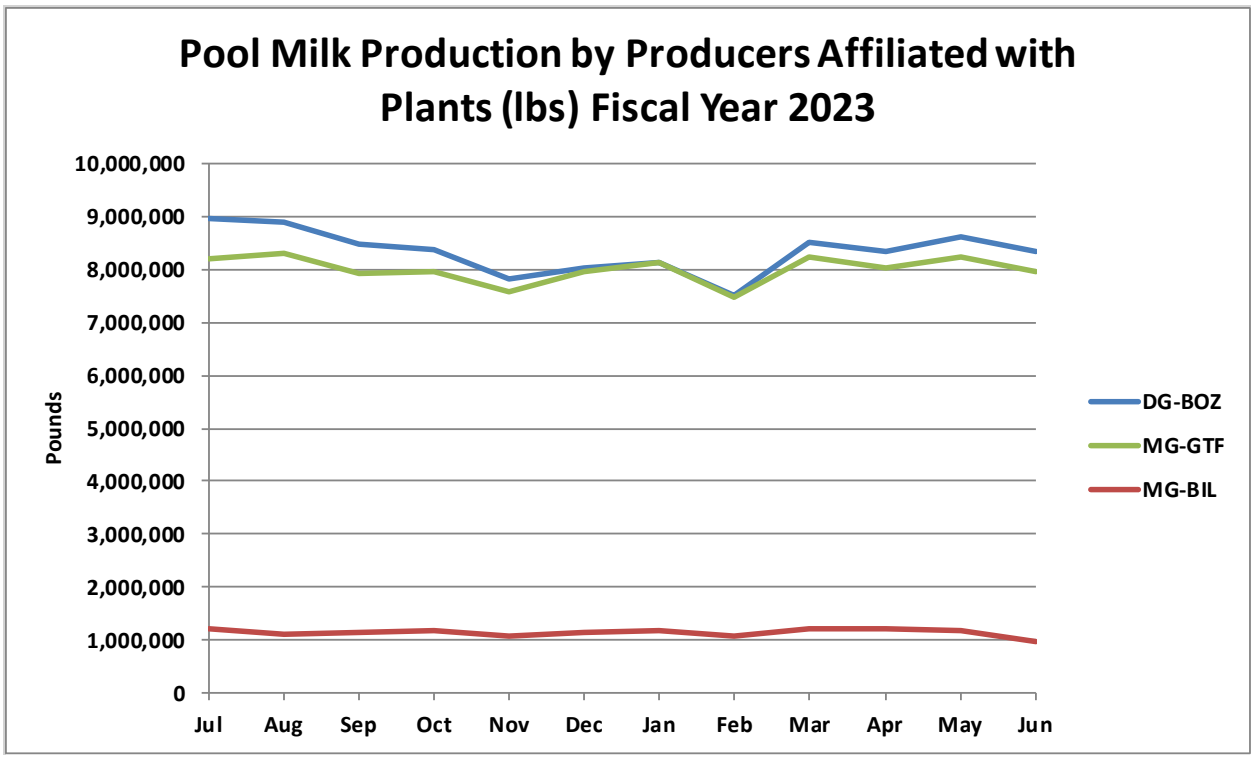
POOL PRODUCTION

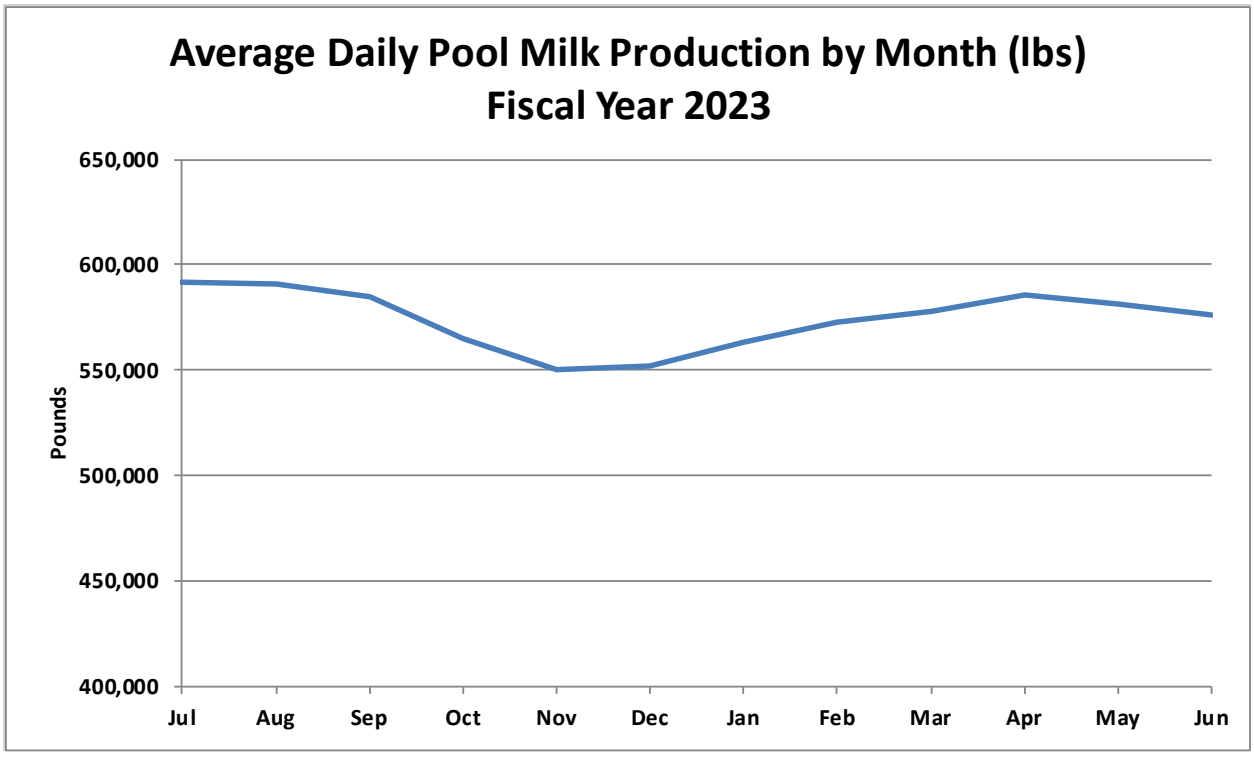
In Fiscal Year 2023, 38 dairies produced and delivered milk to three pool handlers. The following table shows that in Fiscal Year 2023 the Montana milk pool's annual production decreased by 16,365,941 pounds, the average butterfat content increased by 0.08%, the, weighted average pool price increased by $1.74, and the annual gross receipts increased by $16,742 from Fiscal Year 2022. In terms of percentages, production decreased by 7.24%; the weighted average price increased by 7.84%; and annual gross receipts increased by 0.03%. While production pounds showed a decrease from the prior Fiscal Year, the Fiscal Year 2023 increase in butterfat content and the increase in announced prices resulted in the highest weighted average price ever recorded by the Milk Control Program.

Summarized Pool Information: Fiscal Year 2014 – 2023

Fiscal Year	Production (lbs.)	Butterfat (%)	Weighted Average Price ($/cwt)	Annual Gross Receipts ($)
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
2020	249,308,894	3.83%	$18.27	$45,545,253
2021	240,694,786	3.84%	$18.18	$43,769,676
2022	225,997,202	3.80%	$22.12	$49,999,913
2023	209,631,261	3.88%	$23.86	$50,016,655

The following charts provide information from Fiscal Year 2023 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. Dairy cows experience what is referred to as the "spring flush" and produce more milk in the spring and early summer months. The first chart shows milk received from pool producers by each of Montana's pool handlers. The second chart determines the average daily pounds of production per month by combining and averaging all pool producers monthly pounds. The third chart shows the monthly butterfat percentage as a whole of these same producers.

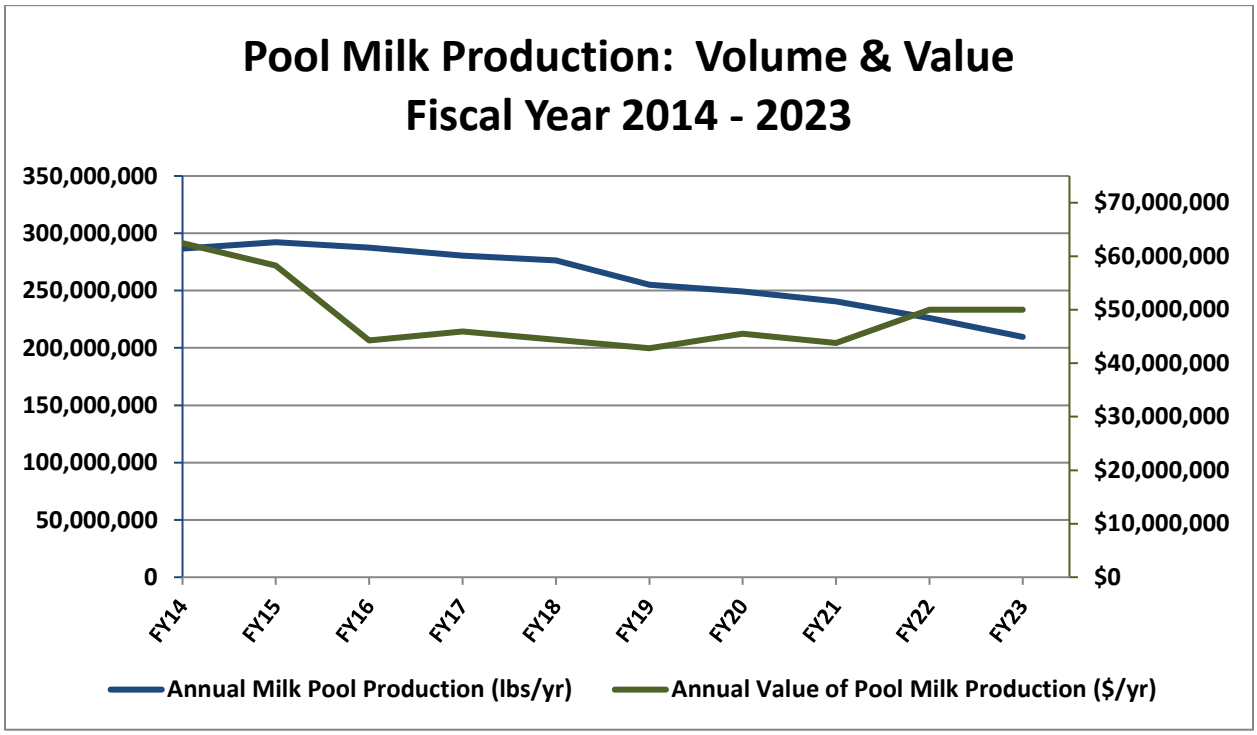

Pool Milk Production by Producers Affiliated with Plants (lbs) Fiscal Year 2023
10,000,000
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Pounds
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
DG-BOZ
MG-GTF
MG-BIL

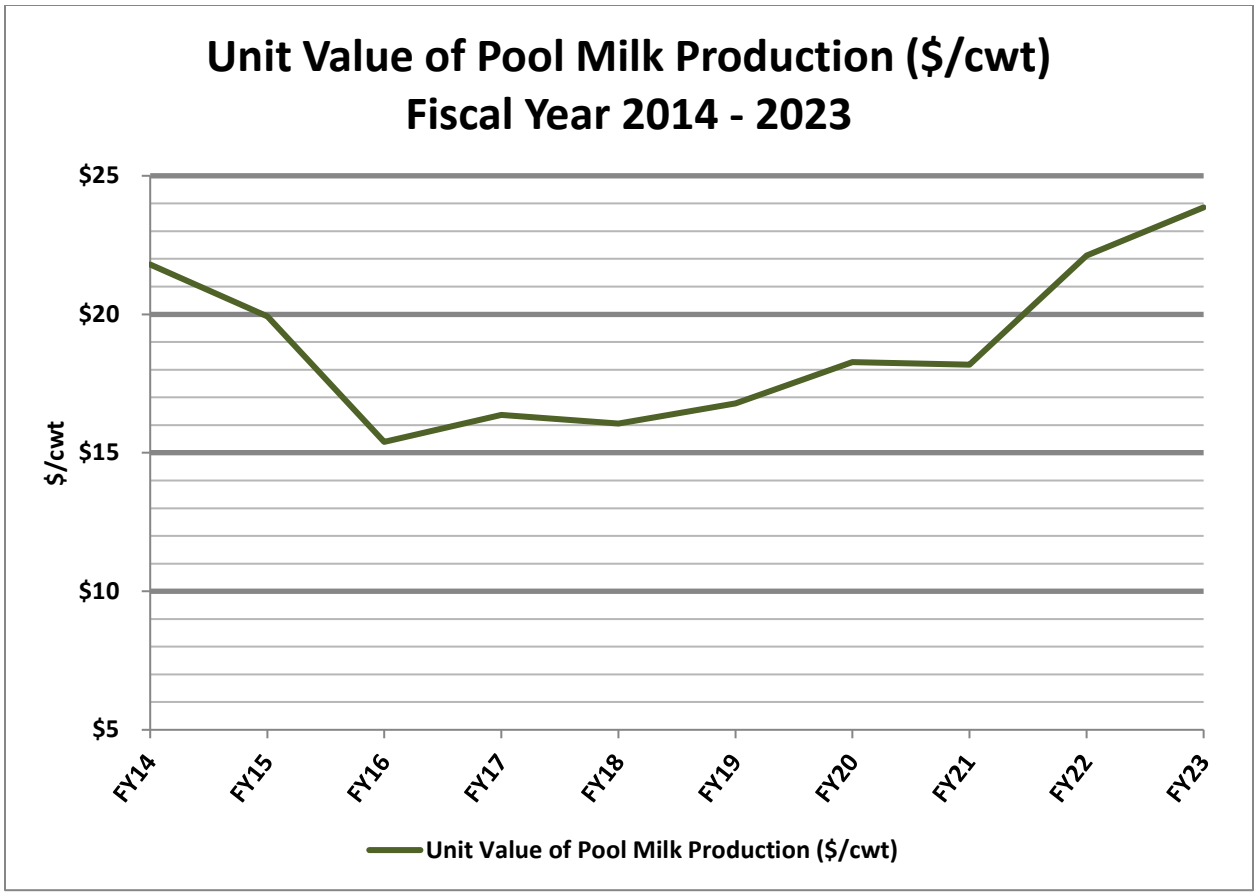

Average Daily Pool Milk Production by Month (lbs) Fiscal Year 2023
650,000
600,000
550,000
500,000
450,000
400,000
Pounds
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun

THE PRICE/COST OF POOL MILK

Montana's pool marketing system establishes how pool dairies are compensated for milk. The program 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 program uses the information to calculate quota and excess prices and calculate minimum 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 2014 through Fiscal Year 2023. Fiscal Year 2023 was the fifth consecutive year that production declined after a slight increase in Fiscal Year 2018. Over the long term, the unit value of production has generally trended upward and reflected milk prices. Prices in Fiscal Year 2023 were the highest we have seen when looking back from 2014 through Fiscal Year 2023.





The following table identifies the key factors that determine the value of Montana pool milk. The production and utilization factors result in a pool wide 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
Production & Utilization Factors • pool wide 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 *Transportation Charges for Intrapool Shipments of Unprocessed Milk* • the volume of sales of unprocessed pool milk between pool plants and shipment freight rates *Surplus Sale Factors* • 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(43). 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 minus the 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	
Pool wide Skim Milk Utilization Value *(Classified announced prices multiplied by weight of Class I, II, III utilization)* Adjustments to Skim Milk Utilization Value: - Transportation Charges for Intrapool Shipments + / - Surplus Sales Adjustments + / - Settlement Fund Adjustments = Adjusted Pool wide Skim Milk Utilization Value	Pool wide Butterfat Utilization Value *(classified announced prices multiplied by weight of Class I, II, III utilization)*
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 program 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.

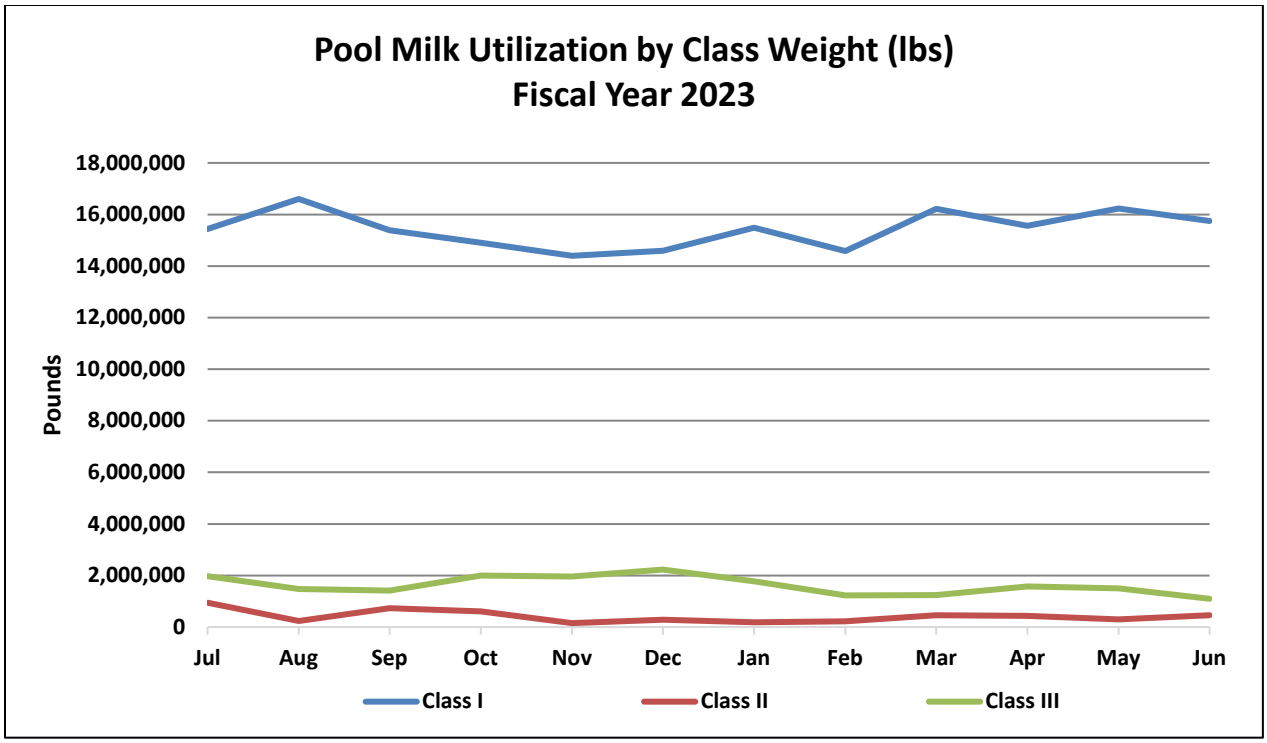
The two major elements of utilization factors are: 1) the minimum prices for each class of milk and 2) the percentage of butterfat and skim milk (the portion of milk that is not butterfat) utilized in each class of milk. The minimum prices are highest for pool milk utilized as Class I milk consumed in Montana, which accounted for 58.4% of pool production in Fiscal Year 2023, increasing slightly from 57.6% in Fiscal Year 2022. The percentage of pool milk utilized as Class I milk consumed in Montana was 54.6% of pool production in 2014 and has fluctuated slightly each Fiscal Year up to the current Fiscal Year, averaging 54.7% per Fiscal Year. This shows that as production pounds have decreased the remaining pounds are still being utilized for Class I production at close to the same rate for each Fiscal Year.

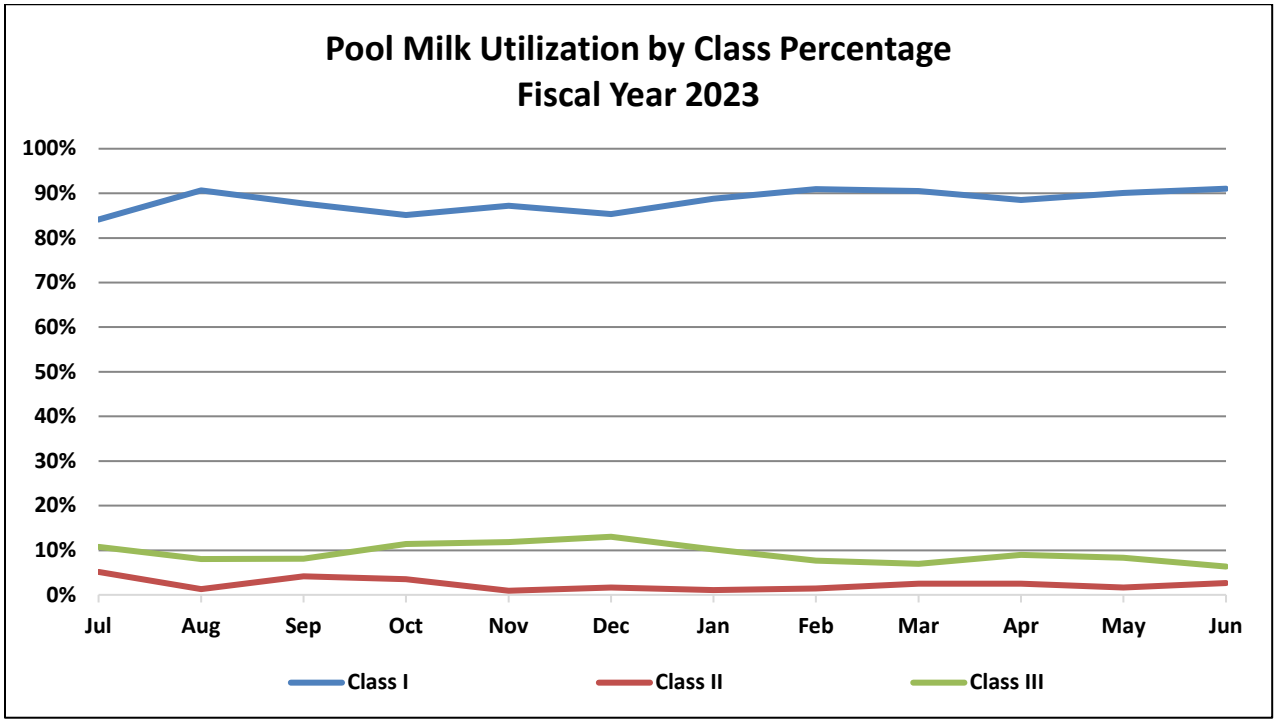
The following table summarizes the Fiscal Year 2023 utilization of skim milk and butterfat by class, value of utilization, and weighted average unit value.

Fiscal Year 2023 Pool Milk Utilization Volume, Value, Average Unit Value Before Adjustments

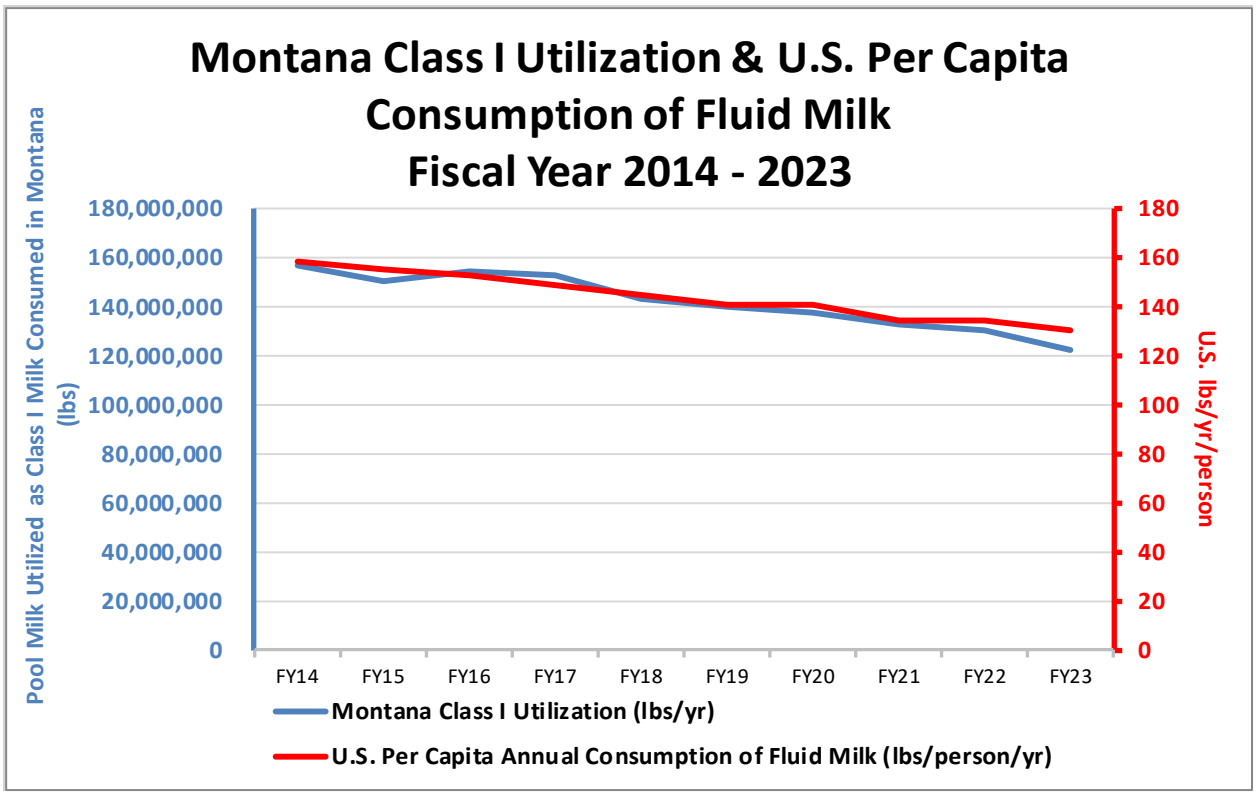
	CLASS I	CLASS II	CLASS III	All Classes – Before Adjustments
Skim Milk Utilization (lbs.)	180,986,455	3,972,823	16,552,706	201,511,984
Skim Milk Utilization ($)	$25,143,089	$604,032	$1,685,905	$27,433,025
Skim Milk Utilization – Unit Value ($/lb.)	$0.1389225	$0.1520409	$0.1018507	$0.1361360
Butterfat Utilization (lbs.)	4,178,575	1,035,929	2,904,773	8,119,277
Butterfat Utilization ($)	$12,746,606	$3,486,559	$8,898,336	$25,131,502
Butterfat Utilization – Unit Value ($/lb.)	$3.0504673	$3.3656355	$3.0633500	$3.0952882

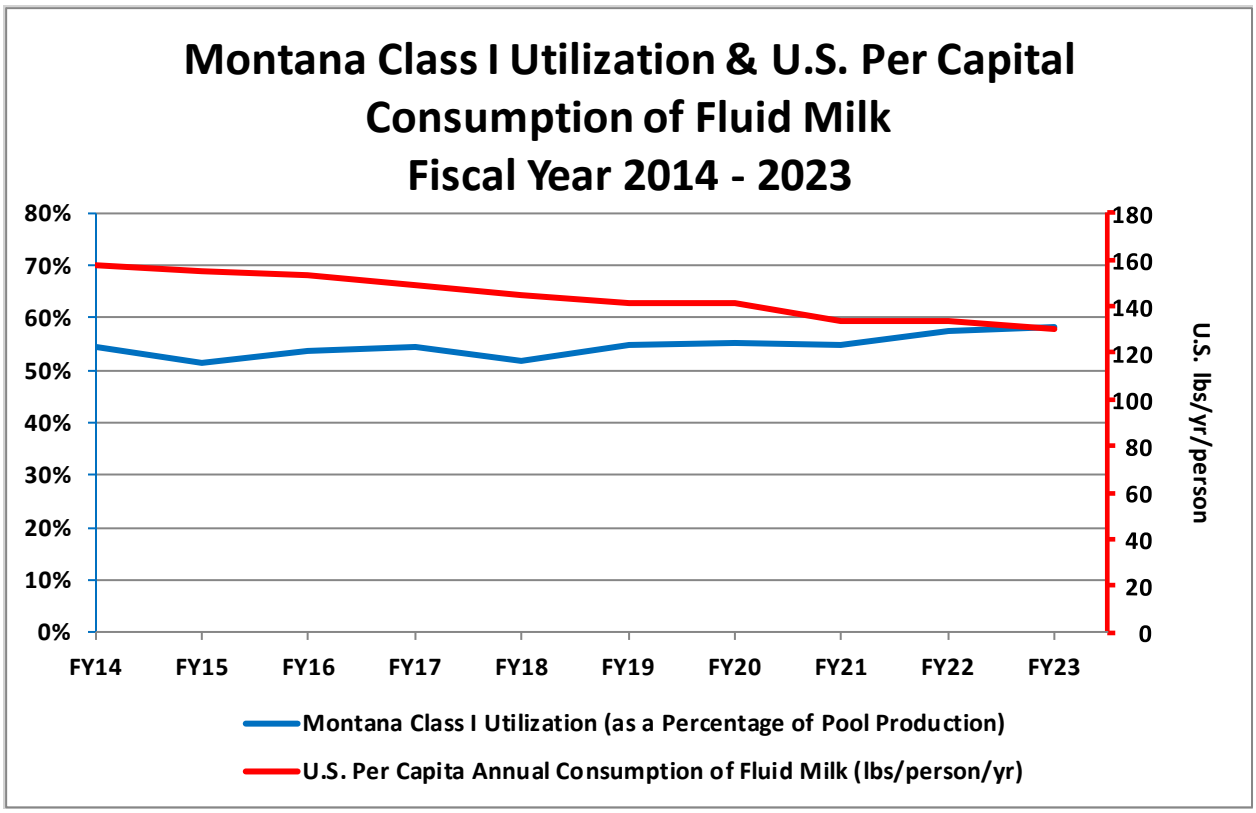
The following two charts show monthly pool wide utilization of milk in terms of pounds per month and percentage of production. Viewing utilization by percentage of production eliminates variation that is based on the number of days in a month. In terms of total utilization and utilization as a percentage of production, Class I utilization had some peaks in the winter and spring months and its lowest in November 2022. This seasonal trend is influenced by seasonal sales patterns (strongly influenced by school milk sales) and seasonality in milk production. Class II utilization usually peaks in the summer months and is driven by sales of ice cream and ice cream mix products. However, in Fiscal Year 2023 it peaked in September and October remaining almost flat through June. This may indicate that the sale of ice cream and ice cream mix products are not only a summer seasonal item.


Pool Milk Utilization by Class Weight (lbs)
Fiscal Year 2023
Pounds
18,000,000
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Class I
Class II
Class III


Pool Milk Utilization by Class Percentage
Fiscal Year 2023
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Class I
Class II
Class III

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 Fiscal Year 2014. The USDA Economic Research Service was the source of per capita consumption information (http://www.ers.usda.gov/data-products/dairy-data, accessed November 2023). From Fiscal Year 2014 through Fiscal Year 2023 pool production averaged about 260 million pounds per year. Starting in Fiscal Year 2019 through Fiscal Year 2023 milk production saw an average decline of approximately 5.35%. Montana's population increased from approximately 1.0 in 2014 to 1.1million in 2023 according to the World Population Review. 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 roughly 22% since Fiscal Year 2014. Annual U.S. per capita consumption of fluid milk has declined by about 15%, from 158 pounds in 2014 to 134 pounds in 2022. The percentage of pool milk utilized as Class I milk consumed in Montana increased from 54.6% of pool production in Fiscal Year 2014 to 58.4% pool production in Fiscal Year 2023. The pool production of 58.4% in Fiscal Year 2023 was an increase of 1.35% from the prior Fiscal Year. The increased percentage in Fiscal Year 2023 vs. 2014 is a function of pool production decreasing more than Class I milk utilization decreasing (for the Montana market). Potential factors influencing the long-term decline of the percentage of Class I pool milk consumed in Montana include increased availability and possibly market share of ultra-pasteurized 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 other beverage products, including plant-based milk substitutes; and changes in food distribution systems that have led to an increased imports of fluid milk by out-of-state distributors supplying Montana stores. Class II manufacturing in Montana accounts for a relatively small amount of utilization. Because production has been steadily declining 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.

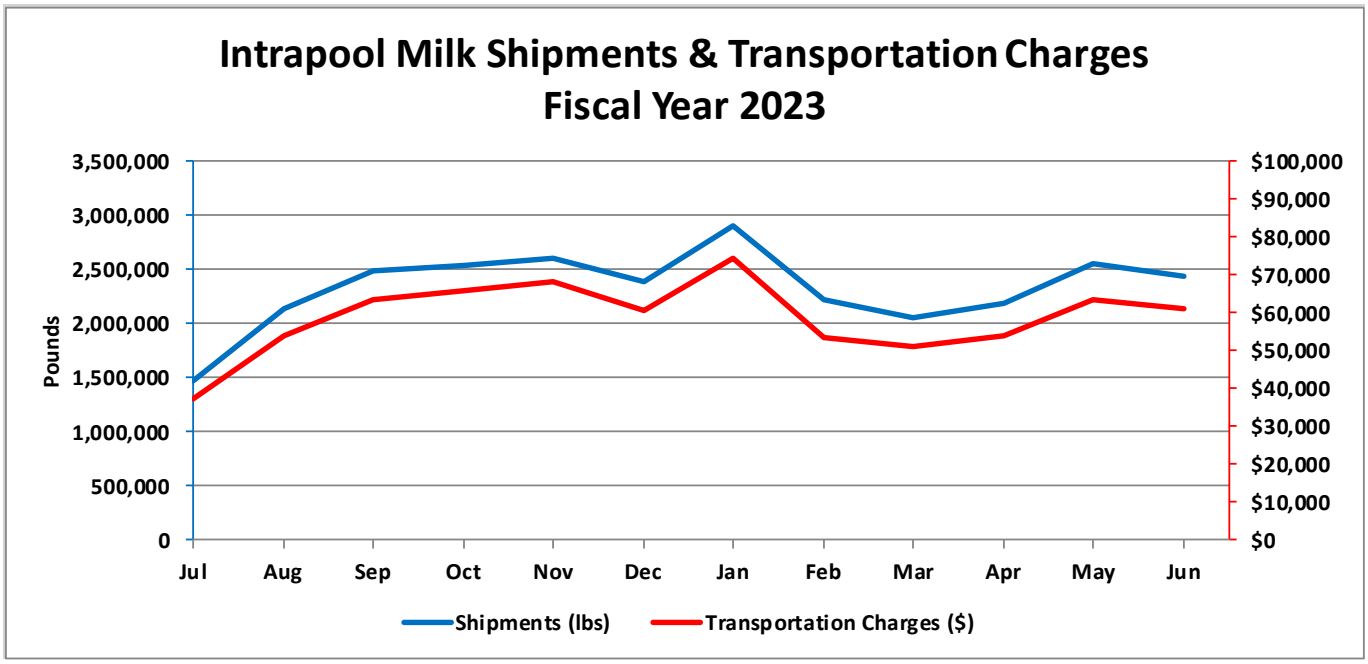

Montana Class I Utilization & U.S. Per Capita Consumption of Fluid Milk
Fiscal Year 2014 - 2023
Pool Milk Utilized as Class I Milk Consumed in Montana (lbs)
180,000,000
160,000,000
140,000,000
120,000,000
100,000,000
80,000,000
60,000,000
40,000,000
20,000,000
0
180
160
140
120
100
80
60
40
20
0
U.S. lbs/yr/person
FY14 FY15 FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23
Montana Class I Utilization (lbs/yr)
U.S. Per Capita Annual Consumption of Fluid Milk (lbs/person/yr)


Montana Class I Utilization & U.S. Per Capital Consumption of Fluid Milk
Fiscal Year 2014 - 2023
80%
70%
60%
50%
40%
30%
20%
10%
0%
180
160
140
120
100
80
60
40
20
0
U.S. lbs/yr/person
FY14 FY15 FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23
Montana Class I Utilization (as a Percentage of Pool Production)
U.S. Per Capita Annual Consumption of Fluid Milk (lbs/person/yr)

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 2023, the skim milk utilization value was reduced by $708,169 for shipment of 28 million pounds of unprocessed pool milk ($2.53/cwt average freight rate). Overall, the adjustment for intrapool milk shipments reduced the value of pool production by approximately $0.34/cwt.

The following chart shows the volume of the intrapool shipments and total transportation charges for each month in Fiscal Year 2023. The charges were mostly driven by shipments from Meadow Gold – Great Falls to Meadow Gold – Billings with one shipment occurring from Meadow Gold – Great Falls to Darigold – Bozeman.

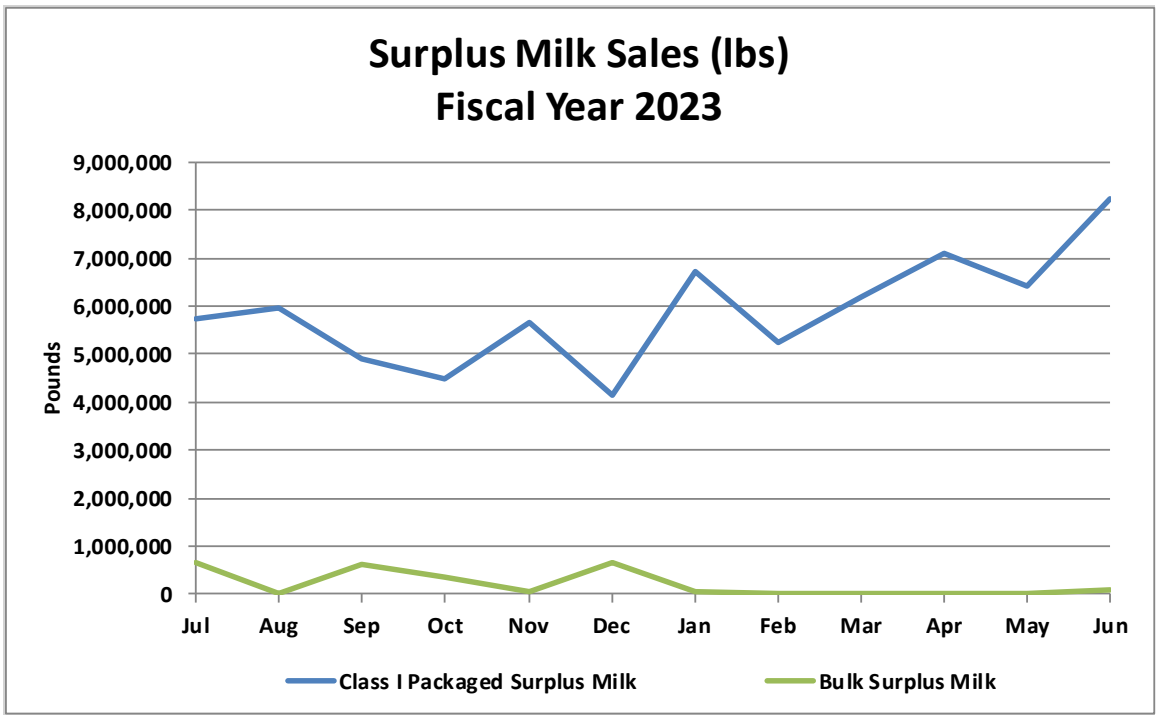


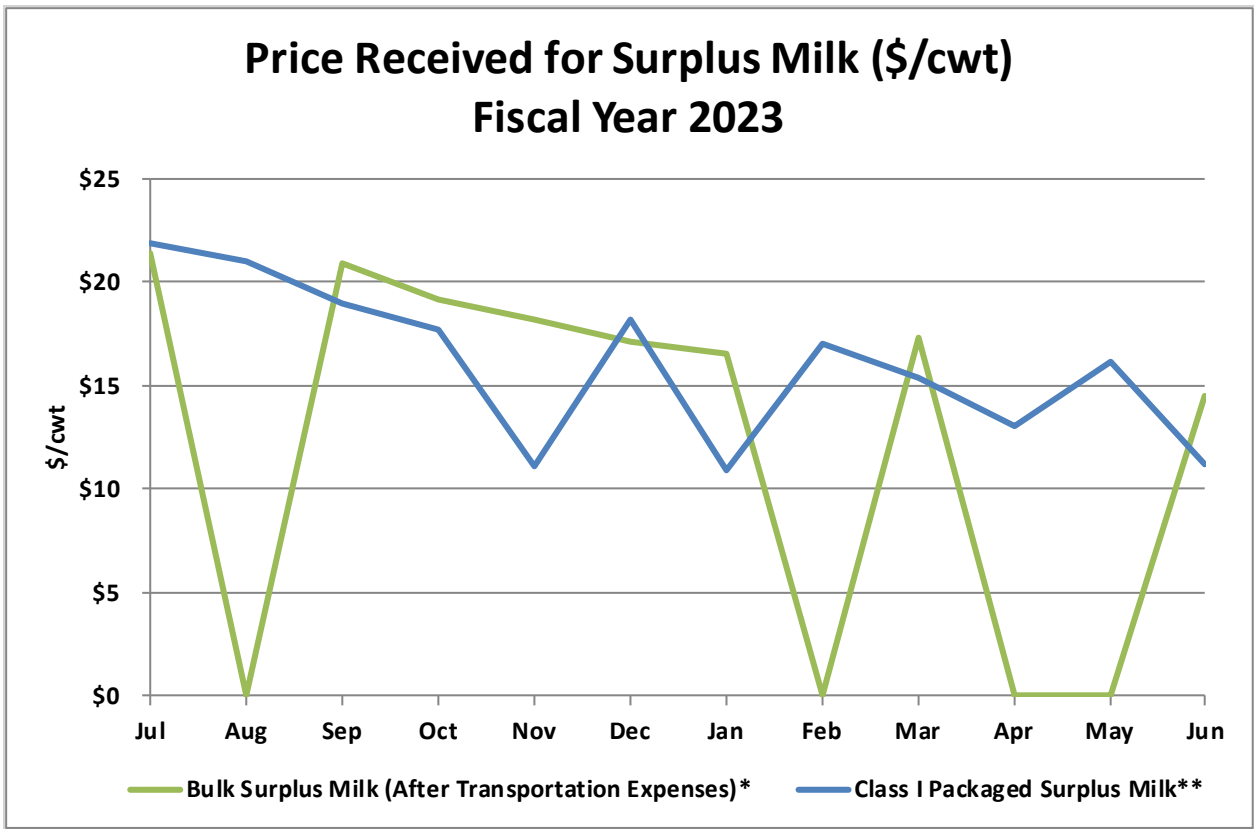
Sales of Surplus Milk

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. In the past bulk surplus milk sales peaked 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. In Fiscal Year 2023 no bulk surplus milk was sold in February, April, and May. The average utilization of Class I milk in this time period for Fiscal Year 2023 was 15,282,334 pounds, a decrease of 5.2% from the Fiscal Year 2022 amount of 16,076,868. This can be attributed to the loss of five dairies in Fiscal Year 2023.

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 about 2%. Butterfat is valuable. For Montana pool milk in Fiscal Year 2023, butterfat was over 17.5 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 that considers bulk cream sales and Class III shrink of milk associated with processing raw milk for Class I packaged milk surplus sales. Bureau analysis of December 2018 surplus milk sales showed that, all things considered, processing raw milk for Class I packaged surplus sales contributed $4.06/cwt more to the pool utilization value than bulk surplus milk marketed to Class III processors. 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 spot market in Idaho and Utah and the transportation expenses included in bulk surplus sales adjustments requested by pool handlers.





*No bulk surplus milk in August 2022, February, April, or May 2023
**The price received for surplus Class I packaged milk excludes the value of associated cream and shrink.

Adjustments for Surplus Sales

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. Most of the surplus milk is sold as Class I packaged milk to out-of-state markets. In the Fiscal Year 2023, the overall adjustment for surplus sales (bulk and Class I packaged milk) totaled $1,852,086.

Class I Packaged Surplus Milk

In Fiscal Year 2023, surplus sales adjustments for Class I packaged surplus milk reduced the utilization value by $1,787,872. Overall, the adjustment for Class I packaged surplus milk sales reduced the value of pool production by $0.853cwt.

Bulk Surplus Milk

In Fiscal Year 2023, surplus sales adjustments for bulk surplus milk reduced the utilization value by $64,214. The adjustment was a negative adjustment for eight months of the year, having no adjustments the other four months of the year. Overall, the adjustment for bulk surplus milk sales reduced the value of pool production by $0.031/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 2023, 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.

Combined Adjustments to Pool Milk Utilization Value

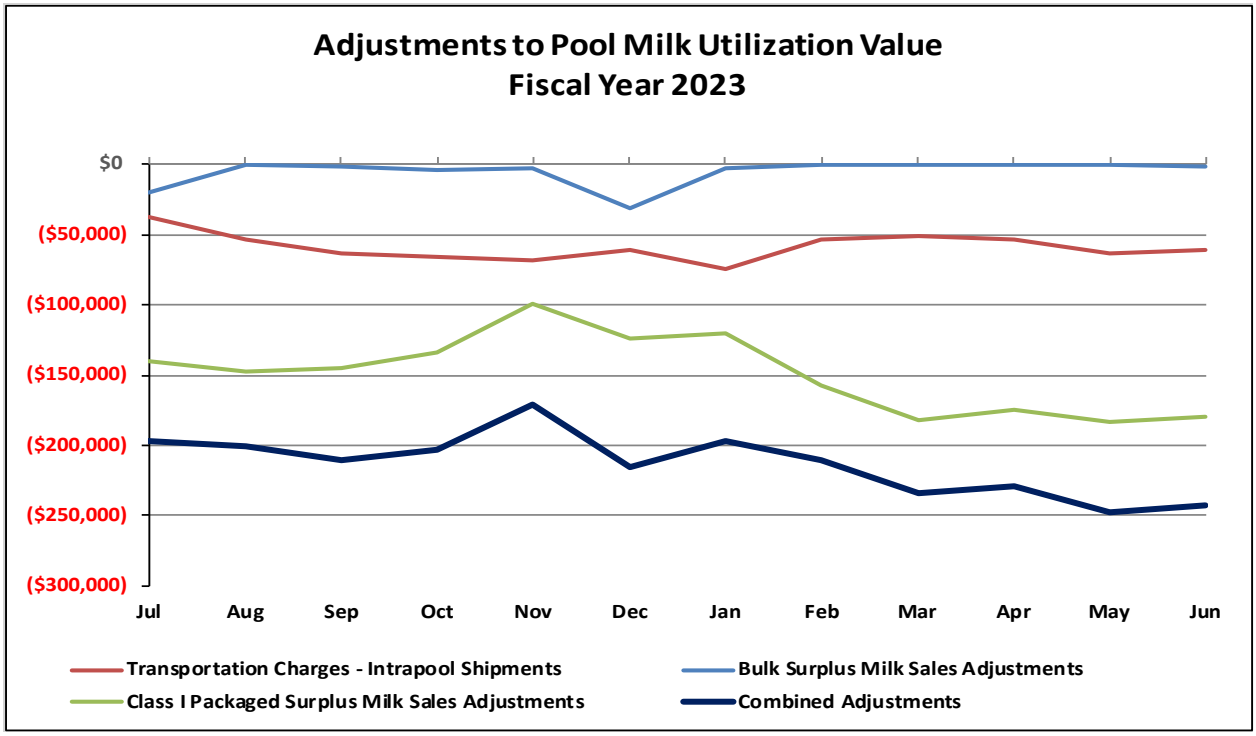
In Fiscal Year 2023, adjustments were made for transportation charges for shipments of unprocessed pool milk between pool plants, Class I packaged surplus milk sales, and bulk surplus milk sales. These adjustment reduced the pool value by over $2.5 million (4.87%) or in other terms $1.22/cwt. The table 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 2023

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	($708,169)	($0.3378)	(1.35%)
Class I Packaged Surplus Milk Sales	($1,787,872)	($0.8529)	(3.40%)
Bulk Surplus Milk Sales	($64,214)	($0.0306)	(0.12%)
Subtotal	($2,560,255)	($1.2213)	(4.87%)

	Pool Milk Utilization Value ($)	Pool Milk Utilization Value ($/cwt at actual butterfat)
Unadjusted Value	$52,564,528	$25.0748
Adjustments	($2,560,255)	($1.2213)
Adjusted Value	$50,016,655	$23.8593

The following chart shows the adjustments made to the pool utilization value throughout Fiscal Year 2023.



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