



A REPORT
TO THE
MONTANA
LEGISLATURE

PERFORMANCE AUDIT

*Montana's Milk Industry:
An Analysis of the State-
Regulated Market*

Department of Livestock

OCTOBER 2021

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DIVISION

20P-03

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PERFORMANCE AUDITS

Performance audits conducted by the Legislative Audit Division are designed to assess state government operations. From the audit work, a determination is made as to whether agencies and programs are accomplishing their purposes, and whether they can do so with greater efficiency and economy.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Members of the performance audit staff hold degrees in disciplines appropriate to the audit process.

Performance audits are conducted at the request of the Legislative Audit Committee, which is a bicameral and bipartisan standing committee of the Montana Legislature. The committee consists of six members of the Senate and six members of the House of Representatives.

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October 2021

The Legislative Audit Committee
of the Montana State Legislature:

This is our performance audit of the Board of Milk Control and Milk Control Bureau located within the Department of Livestock.

This report provides the Legislature information about the regulatory practices and activities of Montana's milk industry by the Board of Milk Control and Milk Control Bureau. This report includes recommendations for administrative rulemaking by the Department of Livestock to adjust quota when necessary for the market. A written response from the department is included at the end of the report.

We wish to express our appreciation to Department of Livestock and Board of Milk Control personnel for their cooperation and assistance during the audit.

Respectfully submitted,

/s/ Angus Maciver

Angus Maciver
Legislative Auditor

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APPOINTED AND ADMINISTRATIVE OFFICIALS

	<u>Name</u>	<u>City</u>	<u>Industry Represented</u>	<u>Term Expires March 1</u>
	Board of Livestock	Gene Curry, Chair	Valier	Cattle
Nina Baucus		Wolf Creek	Cattle	2023
Susan Brown		Belgrade	Dairy/Poultry	2023
Jake Feddes		Belgrade	Cattle	2027
Alan Redfield		Livingston	Cattle	2027
Ed Waldner		Chester	Swine	2023
Greg Wichman		Hilger	Sheep	2027

Department of Livestock
 Mike Honeycutt, Executive Officer
 Brian Simonson, Deputy Executive Officer

	<u>Name</u>	<u>City</u>	<u>Term Expires January 1</u>
	Board of Milk Control	Ken Bryan, Chair	Great Falls
Brian C. Beerman		Fairfield	2025
Staci Ketchum		Miles City	2025
W. Scott Mitchell		Billings	2023
Travis Stroh		Glendive	2025



MONTANA LEGISLATIVE AUDIT DIVISION

Montana's Milk Industry: An Analysis of the State-Regulated Market

DEPARTMENT OF LIVESTOCK

BACKGROUND

Industry regulation of milk production and dairy products is a common practice in the U.S. and the world. The Board of Milk Control was established with the Montana Milk Act in 1935 to promote and encourage dairy production and marketing through licensing, establishing minimum prices, administering a producer pool and quota system, and governing fair-trade practices in the state. The Board is administratively attached to the Department of Livestock, which provides staff for the board to fulfil their statutory obligations as the Milk Control Bureau. The Board of Milk Control and the Milk Control Bureau are entirely funded through assessments levied to Montana milk producers and distributors.

The Board of Milk Control regulates Montana's milk industry through various practices and activities. The quota system allows producers to be paid guaranteed prices for any milk supplied to both in-state and out-of-state processing plants within a set amount. Montana's milk industry has been declining over the last few decades, and the demand for milk products has decreased. In recent years, production has fallen to about 75 percent of total quota owned by producers. The disparity between the current quota system and recent production decreases the value of owning quota and negatively affects producers.

KEY FINDINGS:

The Board of Milk Control's quota system is outdated and ineffective for maintaining Montana's milk supply. While the board effectively regulates the milk industry through class utilization pricing and pooling, the inability to decrease the amount of quota owned by producers due to incomplete administrative rules has diminished the accuracy of the quota system. The quota system was intended to regulate and maintain the supply of milk in the state and work in conjunction with the statewide pool to discourage excess production of milk. Very few states and markets operate a quota system, but those that do, review and reset the amount of quota to reflect recent production and milk sales. Montana producers' current quota balances were last changed in 2001. Improving administrative rules by including provisions to decrease the amount of quota could better position the Board of Milk Control to act on industry needs and changing markets.

RECOMMENDATIONS:

In this report, we issued the following recommendations:

To the department: 1

To the legislature: 0

For the full report or more information, contact the Legislative Audit Division.

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RECOMMENDATION #1 (page 22):

Management and operational effectiveness

The Department of Livestock and the Board of Milk Control should pursue rulemaking authority to decrease the amount of quota owned by dairy producers and decrease quota to reflect current milk production and Montana dairy industry needs.

Department response: **Concur**

Chapter I – The Board of Milk Control Administers the Montana Milk Act

Introduction

Regulation of milk production and dairy products is a common practice in the U.S. and world. Many states, including Montana, adopted laws during the Great Depression to regulate pricing and milk supply to stabilize the market. A stable milk market ensures producers receive a fair price and the public has access to an affordable and safe supply of milk. Montana passed the Milk Control Act in 1935, establishing the Board of Milk Control (board) and the Milk Control Bureau (bureau) and tasking both with licensing dairy farms and setting uniform prices for milk from licensed producers in the state. During the 2019 Legislative Session, legislators sought to make changes to milk industry regulations. The legislation died in the House Agriculture Committee, but interest in milk control and the board's regulatory practices and activities has remained. The Legislative Audit Committee prioritized a performance audit of the board and bureau in fiscal year (FY) 2020 to examine the regulatory structures in place for Montana's milk industry.

The Board of Milk Control

The Board of Milk Control is allocated to the Department of Livestock. The department provides staff to the board through the Milk Control Bureau under the Central Services Division. The board is different and separate from the Board of Livestock and the Milk and Egg Bureau, both within the Department of Livestock. The Milk and Egg Bureau focuses their activities on food safety, specifically dairy and egg products, and disease prevention.

The board, consisting of five members, functions independently from the Department of Livestock and does not require department approval for adopting rules and measures for milk control. Members of the board are appointed by the governor and approved by the Senate to serve four-year terms that are often concurrent with the governor's term. The governor also designates the chairperson of the board. Members cannot be connected to production, processing, distribution, or sales of milk during their term. One member must also be a licensed attorney in the state of Montana. The board typically meets three to four times per year, though the board chair has the authority to call or cancel meetings as necessary.

The Board of Milk Control Regulates the Industry through Various Activities

The board and the bureau complete many tasks to regulate Montana's milk industry. All producers, producer-distributors, distributors, and jobbers must be licensed to operate within the milk industry in Montana. Producers are defined as dairy farms in Montana; producer-distributors are farms that produce, process, and distribute milk; distributors, also known as pool handlers, are processing plants that buy milk from producers; and distributors and jobbers bring processed milk to retailers and food services in and out of Montana. The bureau issues licenses on a fiscal year basis. A licensing fee of \$2 is applied and deposited in the General Fund, though the board relies only on assessments for funding. The board is required to adopt assessment rates for producers and distributors to provide for the administration of the Milk Control Act. Pool handlers, those in charge of producer payments, withhold

the assessment rates from payments and the bureau receives the assessments from the handlers. Assessment rates are based on hundredweight of milk produced, which is the standard measurement for dairy products equaling 100 pounds. The bureau also receives payments and sales reports from pool handlers and distributors outside of Montana who import milk to Montana processing plants. Pool handlers and distributors also provide the bureau with monthly reports.

Assessments Fund the Milk Control Bureau and Board of Milk Control

The board is funded from ongoing assessments charged to producers, distributors, and producer-distributors. No General Fund is used. Producers are farmers that operate licensed dairy farms and distributors are processing plants that pasteurize and sell milk and dairy products. Assessment rates for FY 2019 were:

- ◆ \$0.03 per hundredweight for producers and distributors.
- ◆ \$0.06 per hundredweight for producer-distributors.

The bureau is funded with the board through assessments only. Funding for the bureau in FY 2019 totaled \$545,000. Expenditures for board meetings, which include member compensation, are paid from the bureau's operating budget. In FY 2019, expenditures for the board totaled \$2,575 for two in-person meetings and one teleconference meeting.

Audit Scope

Based on our assessment work, we found managing the state's milk market depends on three inter-related processes. The first is awarding Montana producers a guaranteed production amount under a set price, called quota, to stabilize the state's milk supply. The second is calculating prices for milk processed within three classes of milk, known as class utilization pricing, to guarantee prices for producers. The third key process of the board and bureau is paying all producers in the state a uniform price for milk produced in defined groups, called pooling, to protect Montana producers from individual market losses. As these are the core functions, we focused our audit work in these areas. This performance audit examined the bureau's monthly producer pricing calculations and announcements, statewide pooling and uniform pricing, quota system, and administrative board. Audit work included examining the pricing calculations, assessing the effectiveness of the statewide pool, identifying production records for quota and excess quota, and examining the structure of the board. We reviewed price announcements and formulas for class utilization prices for each month between January 2018 and December 2019 for a total of 24 months. Our comparison of production and quota records focused on calendar years 2015 to 2019. We also surveyed producers and interviewed industry representatives to understand different roles and perspectives within the industry.

Audit Objectives and Methodologies

To address the risks identified during assessment work, we developed the following objective to examine how the Milk Control Bureau and Board of Milk Control regulate and maintain the milk industry:

Objective 1: Do the Milk Control Bureau and Board of Milk Control ensure that Montana's milk industry is effectively regulated through producer pricing, pooling, and quota?

We completed the following work to address our audit objective:

- ◆ Reviewed statute and administrative rules governing the Milk Control Bureau and Board of Milk Control to understand the authority between the bureau and board, as well as the legal requirements to regulate Montana's milk industry;
- ◆ Reviewed other states' milk control systems and regulatory structures to identify how other states manage their milk industry;
- ◆ Identified the amount of quota currently owned by Montana producers and reviewed the production records between 2015 and 2019 to determine if the quota system aligns with the amount of milk produced in the state;
- ◆ Analyzed trends within the state and national milk industries to understand the changing nature of the industry in recent years;
- ◆ Calculated monthly class utilization prices to determine if the formulas and differentials put in place by the Board of Milk Control are correctly used by the Milk Control Bureau;
- ◆ Analyzed alternatives to a statewide pooling structure to determine if the statewide pool is beneficial to Montana producers; and
- ◆ Interviewed industry representatives from processing plants and producer groups to determine how current milk regulations and structures are working for Montana's industry.

Report Contents

The remainder of this report contains two additional chapters.

- ◆ Chapter II describes Montana's milk industry, the regulatory structures of the Milk Control Bureau and Board of Milk Control, and illustrates audit work related to producer pricing and pooling.
- ◆ Chapter III addresses audit work conducted related to the quota system and includes a recommendation to update administrative rules related to quota.

Chapter II – Montana’s Milk Industry and Board of Milk Control’s Regulatory Practices

Introduction

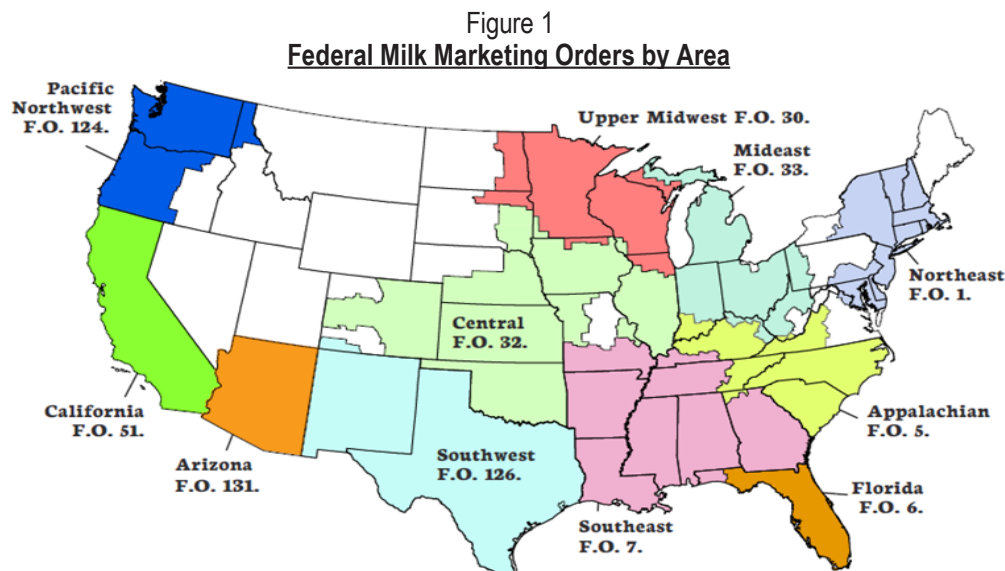
The Board of Milk Control’s (board) management of Montana’s milk industry includes multiple areas aimed at maintaining a stable, marketable industry. The board was established in 1935 by the Milk Control Act to promote and encourage dairy production and marketing. The Milk Control Act requires the board to supervise, regulate, and control the milk industry in Montana through the following:

- ◆ Licensing of producers and distributors of milk;
- ◆ Assessments to fund the administration and enforcement of the Milk Control Act;
- ◆ Calculation and establishment of minimum class utilization prices;
- ◆ Administration of a statewide producer pooling arrangement and quota system; and
- ◆ Governance of fair-trade practices in the state’s milk industry.

To address our audit objective, we analyzed recent milk industry trends, compared announced prices with calculations made from the Milk Control Bureau’s (bureau) formulas, and reviewed the board’s producer pooling structure. This chapter provides a description of the dairy industry landscape in the state and nationwide, discusses our work, and includes conclusions on two of the board’s regulatory practices, class utilization pricing and pooling.

Montana’s Milk Industry

Montana’s dairy industry is state-regulated whereas other states have adopted Federal Milk Marketing Orders (FMMOs) for milk regulation. FMMOs are administered by the U.S. Department of Agriculture (USDA) and follow all federal laws and pricing for their order regions. The following figure indicates where the FMMOs are located in the U.S. The colored portions represent areas under an FMMO, and uncolored areas are either state-regulated or unregulated milk markets.



Source: Compiled by the Legislative Audit Division.

Federal markets produce milk into four utilization classes while Montana combines Federal Class III and IV milk into one class, Class III. In Montana, Class I milk is defined as drinking milk; Class II includes milk used for producing ice cream, sour cream, eggnog, and other cream-based products; and Class III includes milk used for butter, cheese, and milk used for nonhuman consumption.

Figure 2
Flowchart of Milk Process



Source: Compiled by the Legislative Audit Division.

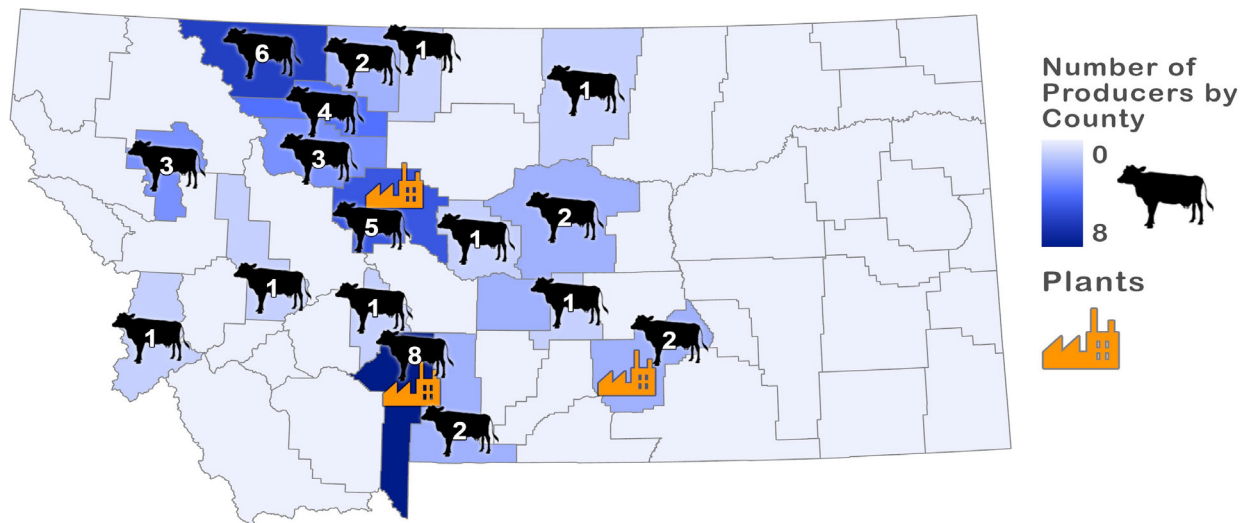
Figure 2 shows the milk production and pasteurization process, from milking the cows to getting products on the grocery store shelves. As part of our work, we gathered information about the process through conversations with processing plant representatives and managers. There are two processing organizations in Montana, Meadow Gold and Darigold, operating between three plants in Great Falls, Billings, and Bozeman. The two processors have similar pasteurization processes, though differ slightly in customer order processes and production capacity. For example, all customer orders for Meadow Gold are processed through the company's customer services in California. Orders are processed and accepted there before the Montana plant receives the qualifying orders. In addition to multiple levels of drinking milk (whole milk, two percent, skim, etc.), this plant processes buttermilk, chocolate milk, ice cream mixes, heavy whipping cream, and half and half. The other processing organization, Darigold, also produces sour cream, cottage cheese, butter, and powdered milk.

Market Demographics Reveal Small Milk Industry in Montana

Montana has a small industry compared to other state and federal dairy industries. There are currently 43 licensed producers in the state supplying milk to the three processing plants. Many of these dairies are also multigenerational institutions that have been in operation for more than 20 years. During audit work, there were 54 producers, three producer-distributors, three in-state distributors, 41 out-of-state distributors, and 27 jobbers. Montana's dairy industry has lost 11 dairy farms since 2018, seven leaving between fiscal years 2020 and 2021 alone.

Figure 3

Map of Dairy Farms and Processing Plants in Montana



Source: Compiled by the Legislative Audit division from department records.

As seen in Figure 3, the dairy farms in Montana are located across 19 counties. With a small industry and a large geographic distribution, some producers must transport their milk to processing plants 200 miles away or more. Additionally, producers are members of cooperatives associated with the processing plants. Cooperative members usually finance the operations and share profits from the milk produced and marketed through the cooperative. Membership to one plant cooperative may mean that farmers might not be transporting their milk to the nearest processing plant. For example, a Darigold producer in Glacier County may have to transport their milk to the plant in Bozeman when

the Meadow Gold plant in Great Falls is closer. Transportation costs can be a major contributor of operation costs for Montana dairies.

Industry Trends Show Declining Market

Montana's dairy industry has faced several challenges in recent years. Production and consumption have declined in the last decade and several producers have left the market due to increased production and operating costs. The dairy industry is unique from many other food and agricultural products because of the variability in production. Production can depend on season, weather, feed conditions, and a variety of other factors. Despite producers leaving the market, the number of cows per dairy is increasing, indicating that larger dairies are remaining in operation and accounting for more of the state's production. According to bureau statistics, between 2015 and 2019, milk production in Montana declined by 13 percent. The Milk Control Bureau keeps records of market demographics and processing receipts from the three processing plants.

Consumption of dairy products in the state is also declining, though at a lesser rate than production. While production fell 13 percent between 2015 and 2019, consumption only fell by 2 percent. This is likely because Montanans are consuming less drinking milk, but more cheese and butter, according to recent consumption data. Most drinking milk consumed in Montana is produced at Montana processing plants, while other products like yogurt, cheese, and butter are produced out-of-state and sold to local grocers.

Montana Trends Are Similar to the National Milk Industry

Industry trends in Montana follow similar patterns as the national milk industry and faces similar challenges. In the U.S., five states – California, Wisconsin, Idaho, New York, and Texas – produce over 50 percent of the country's milk supply. In recent years, more and more farms across the country are leaving the market. Between 2015 and 2020, the USDA estimated the number of dairy farms decreased by about 40,000 farms. Similarly, Montana's industry has had many farms exit the market, though farm size is increasing. Even though there are less farms in operation today than in previous years, the number of dairy cows has increased significantly, especially in 2018. This indicates that though there are fewer farms in operation today, those that currently produce milk are larger in size and production efficiency. National production has remained steady in recent years, though milk sales have fallen. Dairy Farmers of America, a national cooperative representing dairy farmers and national dairy brands, estimated that net sales decreased by \$1.1 billion between 2017 and 2018. The U.S. dairy industry is also greatly influenced by the international industry. Changes to the global milk supply can drive dairy prices down and impact export markets.

The Milk Control Bureau, in a 2019 report, estimates that consumption of dairy products in Montana is declining at a much lesser rate than national consumption due to Montana's increasing population. While the emergence of plant-based milks and products has been a contributing factor to national trends, consumer preference has also changed. Americans are drinking less milk but consuming more butter and cheese. In Montana, consumption has also slightly shifted away from drinking milk in favor of ice cream, cheese, and yogurt. These products are mainly produced in non-pool plants, meaning they are located in other states.

Milk Control Bureau's Tasks, Responsibilities, and Activities

The Milk Control Bureau is responsible for assisting the Board of Milk Control in carrying out the requirements of the Milk Control Act. The bureau assists the board in rulemaking, coordinating with the Department of Livestock, monitoring finances and budgets, preparing market and impact analyses, working with legislators, arranging for hearings and meetings, and implementing rules and statute for milk control. Additionally, the bureau prepares monthly status reports of prices and pooling receipts and annual industry reports on production, consumption, exports, and more. The key function of the bureau, acting for the Board of Milk Control, is to keep record of quota, announce monthly minimum class utilization prices, and maintain a statewide pooling structure.

Quota System Stabilizes Production Levels

The Board of Milk Control uses a quota system in conjunction with the statewide pooling arrangement to regulate and maintain the supply of milk in the state and discourage excess production beyond the state's needs. Quotas are a common economic practice, especially in international trade and agriculture, to limit or fix a quantity of a product. This is beneficial for industries where quantities of goods need to be regulated to avoid oversaturation in a market.

In Montana, all licensed producers own quota allowing a certain amount of milk to be produced each day. Daily quota is either awarded from established production records or purchased from other producers. Producers can produce at or under their quota and be paid the announced minimum prices. Producers are also paid for any milk produced in excess of quota, but at a lesser price. This price differential between quota and excess quota is intended to discourage overproduction beyond the market's needs. The bureau records the total amount of milk produced within quota and in excess of quota for all dairies.

Class Prices Guarantee Payments for Montana Producers

Milk produced on dairy farms is necessary for a variety of products beyond drinking milk. Ice cream, butter, and cheese are all produced with milk. How the milk is ultimately utilized determines what price is paid for it, called the class utilization price. This refers to the minimum prices to be paid to producers based on how the milk is utilized, or what kind of products are made from it, during processing. Montana's three milk classes are described here.

- ◆ Class I milk is drinking milk.
- ◆ Class II includes milk used for producing ice cream, sour cream, eggnog, and other cream-based products.
- ◆ Class III includes milk used for butter, cheese, and milk used for nonhuman consumption.

Prices in Montana are based on the USDA's Announcement of Advanced Prices and Pricing Factors. These pricing factors are prices for butterfat content and skim milk. A key function of the Milk Control Bureau is to calculate and fix minimum producer prices through class utilization prices. The board established the formulas for calculating minimum prices in administrative rule. The formulas include base prices from the USDA announced prices, as well as differentials and other pricing factors specific to Montana. The bureau provides explanation and illustration of utilization class formulas in their annual industry reports.

During assessment we identified potential risk in how Montana class utilization prices are calculated through established formulas. To assess the accuracy of the class formulas, we used the formulas to calculate utilization class prices and compared them to the bureau's announced prices for each month between January 2018 and December 2019. The following tables outline the formulas for Class I, II, and III milk used by the bureau to calculate minimum prices paid to producers. The bureau uses reference prices from the USDA announcements as base prices in the formulas. In the following table, reference prices are similar to the USDA Announced Prices during fieldwork. For processing, milk is measured in hundredweight (cwt) so any unit measured in pounds must be divided by 100. A detailed description of the formulas used for calculating each class utilization price in Montana are below.

Table 1
Reference Price for Montana Producer Price Calculations

References for Montana Producer Price Calculations	Price
Federal Order Base Class I Price (\$/cwt)	\$15.00
Advanced Butterfat Pricing Factor (\$/lb)	\$2.00
Class II Skim Milk Price (\$/cwt)	\$8.00
Class III Skim Milk Pricing Factor (\$/cwt)	\$5.00
Class IV Skim Milk Pricing Factor (\$/cwt)	\$4.00

Source: Compiled by the Legislative Audit Division from department records.

Montana's Class I milk price formula adds a \$2.55 per hundredweight differential to the USDA Federal Order Base Class I Price. This amount increases the Class I price for milk in Montana to better reflect Montana's market.

Table 2
Montana Class I

Montana Class I	Price
Federal Order Base Class I Price	\$15.00
Plus: Montana Class I Differential	\$2.55
Montana Class I Milk Price	\$17.55
Federal Order Advanced Butterfat Pricing Factor	\$2.00
Plus: Montana Butterfat Differential	\$0.03
Montana Class I Butterfat Price	\$2.03

Source: Compiled by the Legislative Audit Division from department records.

Table 3
Montana Class II

Montana Class II	Mathematical Explanation	Price
Advanced Butterfat Pricing Factor	Reference Price	\$2.00
Plus: \$0.007/lb	Advance Butterfat Pricing Factor plus \$0.007/lb	\$0.01
Montana Class II Butterfat Price		\$2.01
Montana Class II Skim Milk Price (units of \$/lb)	Federal Class II Skim Milk Price/100	\$0.08
Value of Class II Butterfat at 3.5 lbs	Montana Class II Butterfat Price * 3.5	\$7.04
Value of Class II Skim Milk at 96.5 lbs	Montana Class II Skim Milk Price * 96.5	\$7.72
Montana Class II Milk Price	Value of Montana Class II Butterfat Price at 3.5 lbs + Value of Montana Class II Skim Milk Price at 96.5 lbs	\$14.76

Source: Compiled by the Legislative Audit Division from department records.

As Montana Class III milk is a combination of Federal Class III and IV milk, the formula for calculating Montana Class III Milk Price relies on the lowest of the announced prices between Federal Class III Skim Milk Pricing Factor and the Federal Order Class IV Skim Milk Pricing Factor. The Montana Class III Price Differential changed with the amended and updated formulas in October 2018. The following formula uses a Class III price differential of \$0.15 per pound.

Table 4
Montana Class III

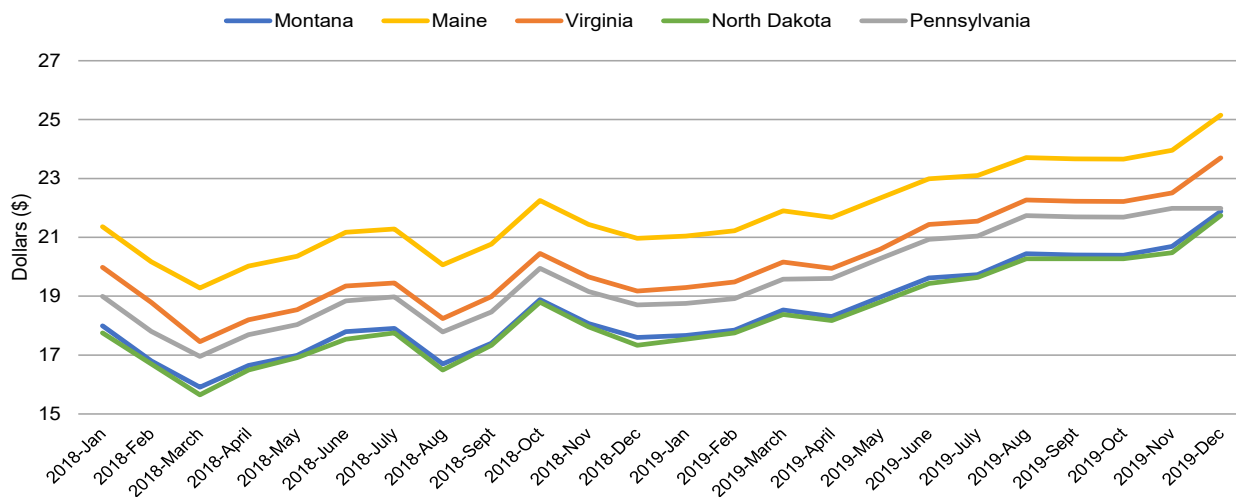
Montana Class III Milk Price	Mathematical Explanation	Price
Advanced Butterfat Pricing Factor	Reference Price	\$2.00
Plus: Montana Class III Price Differential	Advanced Butterfat Pricing Factor less Montana Class III Price Differential	\$0.15
Montana Class III Butterfat Price		\$2.15
Federal Order Class III Skim Milk Pricing Factor	Reference Price	\$5.00
Federal Order Class IV Skim Milk Pricing Factor	Reference Price	\$4.00
Federal Class III or IV Skim Milk Pricing Factor (\$/lb)	Federal Class IV Skim Milk Pricing Factor/100	\$0.04
Value of Montana Class III Butterfat at 3.5 lbs	Montana Class III Butterfat Price * 3.5	\$7.53
Value of Montana Class III Skim Milk at 96.5 lbs	Federal Class III or IV Skim Milk Pricing Factor * 96.5	\$3.86
Montana Class III Milk Price	Value of Montana Class III Butterfat at 3.5 lbs + Value of Montana Class III Skim Milk at 96.5 lbs	\$11.39

Source: Compiled by the Legislative Audit Division from department records.

Once the bureau has calculated the minimum prices for a month, the bureau announces the prices and provides the announcement to all relevant parties on or before the 26th day of the month prior to production. For example, minimum prices for May 2021 would be announced on or before April 26, 2021. From the announced prices, the bureau then calculates the payments to be made to producers from that month’s production records and quota and excess quota prices. Once those payments have been calculated, the bureau informs the processors, or pool handlers, what must be paid to producers on or before the 15th day of the month. After payments have been made, the bureau will compare the estimated utilization values to the actual utilization values for the month to ensure that producers and processors report the same values.

As part of our audit work, we also compared Montana’s announced minimum producer prices for Class I milk between January 2018 and December 2019 with several other state’s announced minimum producer prices for the same time period. Similarly, other states not operating under a FMMO also implement price differentials and other factors to the base USDA price to account for market differences. For example, The Maine Milk Commission sets adjustment prices to Class I milk to account for any discrepancies in production and transportation between producers, making prices more financially attractive to Maine producers.

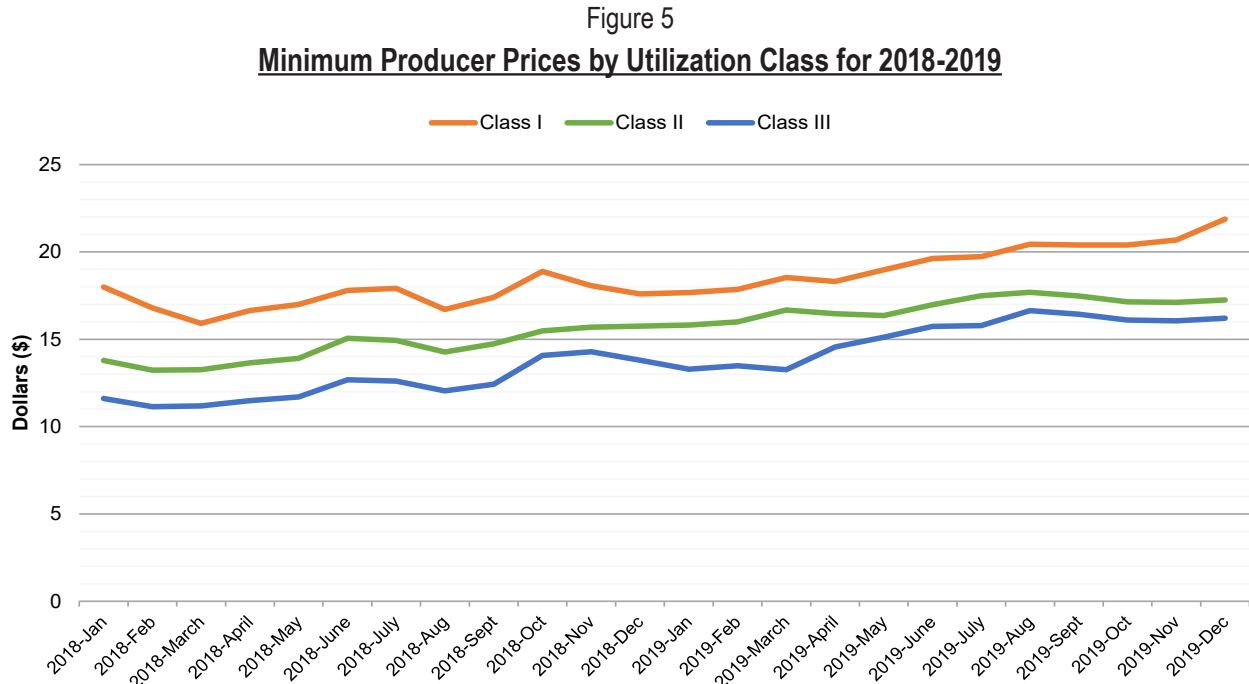
Figure 4
Announced Minimum Producer Prices by State for Class I Milk from 2018-2019
 Montana's Class I prices are one of the lowest of comparison states, but very similar to North Dakota.



Source: Compiled by the Legislative Audit Division from department records.

The Milk Control Bureau’s prices between 2018 and 2019 were low compared to Maine, Pennsylvania, and Virginia, and were most comparable to North Dakota. North Dakota has a similar dairy industry to Montana and likely faces similar geographic and market challenges. Maine, Pennsylvania, and Virginia’s markets overlap with Federal Orders, likely influencing market demands in those states.

As seen in Figure 5, we analyzed announced pricing and independent calculations made from the formulas between January 2018 and December 2019, and our work showed no discrepancy between calculations and announcements. Over that period, minimum producer prices by utilization class all increased.



Source: Compiled by the Legislative Audit Division from department records.

CONCLUSION

Practices followed by the Milk Control Bureau for calculating minimum producer prices of Class I, II, and III milk assures the calculations are correct and ensures producers can have confidence they are receiving the correct price for any milk supplied to the processing plants in the state.

Pooling System Protects Producers from Market Losses

The Milk Control Bureau uses a statewide producer pool to combine the utilization value of milk used by plants in Montana to calculate a uniform price to pay the producers for their supply of milk given to the plants for processing. As a result, producers are paid the same base price regardless of which plant they sell it to. All producers in the state are included in the pool. The utilization value is the amount of milk the plant used for each class utilization of milk (I, II, or III) and is used along with the utilization prices to calculate the payments made to producers for their milk. The statewide producer pool was put in place with the quota system to protect producers against market volatility and minimize the risk to producers.

The bureau receives receipts from the processing plants on how the milk given to the plants by producers was utilized. Montana’s largest utilization class is Class I, which is drinking milk. The amount of milk used in each class, and the prices associated with those utilization classes, are “blended” to determine the uniform price paid to all producers. Table 5 shows a simplified version of the uniform pricing calculation to illustrate how prices are blended. In this example, Producer 1 and Producer 2 produce different amounts of milk in a given month. Their milk is also processed into the three utilization classes in different quantities. The process for calculating the uniform price is described here.

- ◆ **Production** values for each producer are recorded into the three utilization classes.
- ◆ The **percent of the producers’ utilization** for each class is then calculated. Both producers had more of their milk processed into Class I than the other classes.
- ◆ The producers’ percent of utilization is combined to determine the **average percent of total utilization**. This is then used to calculate the **weighted prices** for each utilization class.
- ◆ The **blended price** (\$17.20) is the total of the weighted prices for each class. The blended, or uniform, price is what all producers who supplied milk to the three processing plants receive for each hundredweight of milk produced.
- ◆ The **payment** for each producer comes from multiplying the blended price with the producer’s total utilization for that month.

Table 5
Uniform Price Calculation

Price	Class	Production (cwt)		Percent of Utilization		Avg Percent of Total Utilization	Weighted Prices
		Producer 1	Producer 2	Producer 1	Producer 2		
\$20.00	Class I	1400	1000	0.7	0.56	0.63	\$12.60
\$14.00	Class II	200	300	0.1	0.17	0.14	\$1.96
\$11.00	Class III	400	500	0.2	0.28	0.24	\$2.64
Totals		2000	1800	1	1	1	\$17.20
Payment		\$34,400.00	\$30,960.00				

Source: Compiled by the Legislative Audit Division from department records.

Pooling is a common practice either formally, through state regulation like in Montana, or informally, through processing plants in unregulated states. In North Dakota there is no state-level pool, though the processing plants pool the milk supplied by their producers and calculate a blended price to pay producers. Similarly, national processing chains with plants in multiple states have informal pooling programs with their producers.

Legislative Interest in Changing the Pooling Structure

During the 2019 Legislative Session, House Bill 592 sought to disband the statewide producer pool in favor of two pools. These pools likely would have been split between the two processing organizations in Montana. The bill was a push from some producer groups to be paid better for the milk provided to the processing plants. Proponents of the bill argued that some producers are unfairly hurt by one

pool, while others argued that the pool maintains balance and stability in the industry. The Board of Milk Control, after holding meetings and hearing public comment, publicly opposed the bill during session. Both processing organizations in the state refused to take a public stance on the matter with the viewpoint that the pool is a producer matter, not a processing one. House Bill 592 ultimately died in committee.

Alternatives to One Producer Pool

Since the pooling arrangement is tied to the quota system in statute, both regulatory structures would need to be changed, or eliminated, to accommodate the changing industry. During audit work, we analyzed what other pooling structures might look like for Montana. If the Milk Control Bureau and Board of Milk Control wish to change the pooling structure, there are a few ways to restructure the pool without eliminating it. The most viable of these options would be to allow the plants to pool their producers' milk and pay them based on a determined uniform price. Allowing plants to operate their own pools, even with oversight from the bureau or board, would grant the plants the ability to serve their producers through different cost adjustments specific to their needs. Although, Montana has a small industry and splitting the statewide pool into two pools managed by the plants would likely not provide substantial benefits to Montana producers.

Other options include “pooling” producers in similar regions or quota groups. The bureau and board could continue with the state-wide uniform payment for producers while allowing adjustments to be made for specified groups of producers. Grouping producers into regions could allow plants, or even the bureau, to make price adjustments for things like transportation and hauling. Producers who have to transport milk farther distances to their processing plant have higher overall costs to production than producers in the same county as their processing plant. Similarly, the bureau and board could add pooling adjustments to producers based on quota. Producers are awarded daily quota through the bureau to disincentivize overproduction. Milk produced above quota is paid at lesser prices than the standard Class I milk price. Grouping producers based on quota for pool pricing could also account for discrepancies in farm size and production and allow adjustments to be made for similar quota groups. This option would likely not be very beneficial to producers or viable as a long-term solution.

CONCLUSION

The current pooling structure protects individual producers from large losses and protects all producers from market volatility. Changing the pooling structure, either by splitting it among processing plants or eliminating it altogether, may be futile with current market conditions and a diminishing industry.

Chapter III – Diminishing Value of Quota in the Current Market

Introduction

The Board of Milk Control (board) enacted Montana's quota system to manage and stabilize production levels and provide guaranteed prices for milk produced and sold within the market. Current industry trends reveal that production in Montana has fallen in recent years, far below quota. To address our audit objective, we compared current quota balances with production records in recent years to determine if the quota system is effective in maintaining the supply of milk in Montana and protects producers from market losses. We also surveyed current licensed producers, interviewed industry stakeholders, and examined regulatory practices in other states. This chapter discusses the findings from our work and includes one recommendation to the department related to administrative rules.

Quota System Does Not Reflect Production

The board uses a quota system to regulate and maintain the supply of milk in the state and discourage excess production beyond the state's needs. For a quota system to effectively maintain the milk supply in Montana, quota should reflect current production. When quota was first awarded to Montana producers, balances were based on production records of the individual producers. Currently, quota balances of individual producers range from 51,000 pounds per day to 300. In total, Montana producers own quota over 1,240,000 pounds of milk per day. The board has not awarded additional quota since 2001, as production has fallen below current quota balances.

Industry Trends Reveal a Decline in Production

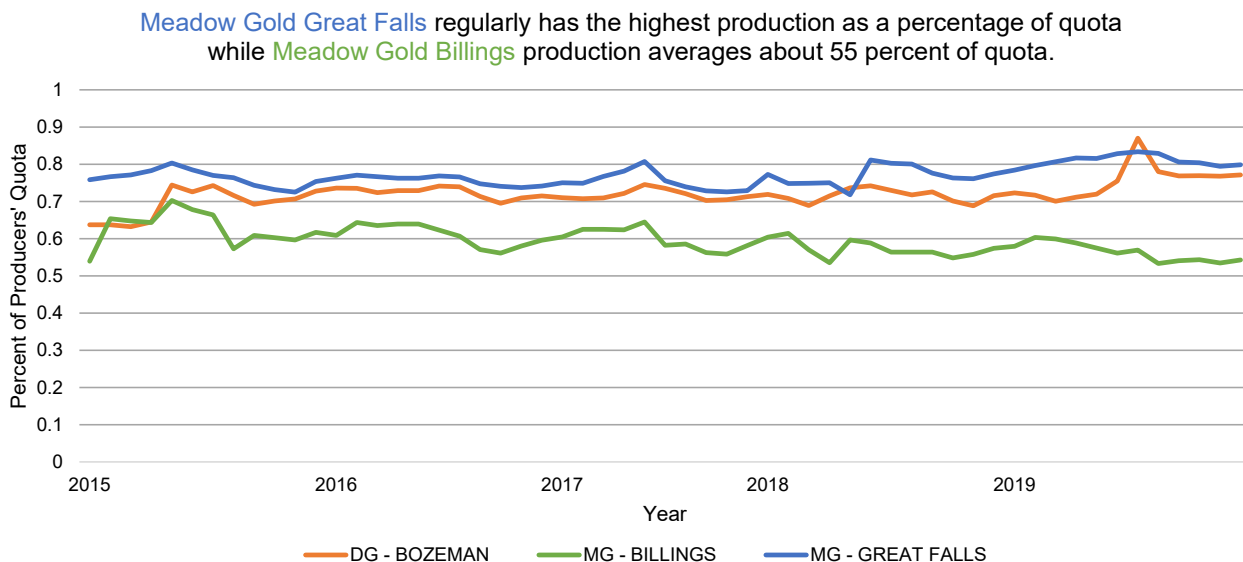
Production and consumption of dairy products in Montana, and nationally, has altered with the changing market. In many states, including Montana, consumption of dairy products has shifted away from drinking milk (Class I) in favor of products like yogurt, cheese, and ice cream. According to Milk Control Bureau (bureau) records, about 80 percent of Class I milk sold in Montana is produced at Montana plants from in-state producers. Montana's milk industry has been declining similar to national trends, but dairy farmers continue to produce milk above state demand. Though in recent years, between 2015 and 2019, production decreased by over 13 percent. The Milk Control Bureau records industry statistics such as production and consumption and reports on them on a yearly basis. During audit work, we analyzed production trends between 2015 and 2019 and discovered that few producers regularly produce at or exceed quota.

Production as a Percentage of Quota Shows Inefficiencies in the Market

Part of our audit work included calculating what percentage of quota producers in the state regularly produce at. We used production and processing records for all producers in the state operating between 2015 and 2019 to determine how much milk, as a portion of their daily quota, was received and processed by the three plants in the state. Figure 6 (see page 18) shows the percentage of quota that producers used over a five-year period. Producers were split into groups based on which processing plant they take their milk to. Quota balances and production records were aggregated on a monthly basis for all producers within plant groups.

Figure 6

Production as a Percentage of Quota at Montana Processing Plants



Source: Compiled by the Legislative Audit Division.

Figure 6 also shows that quota far exceeds current production levels. The three processing plants in Montana process about 70 percent of their producers' quota on average. Producers supplying milk to the Meadow Gold plant in Great Falls and the Darigold plant in Bozeman were producing closer to their quota. Although, the Great Falls and Bozeman plants both receive milk from more producers than the plant in Billings. These producers still hovered around 75 percent of quota for the five years used in the analysis. In interviews with industry stakeholders, we learned that one of the processing plants is only in operation two or three days per week, as of early 2021, due to low milk supply. As production has fallen far below current quota balances, the quota system cannot regulate the current milk supply without a decrease in quota.

Current Administrative Rules Maintain a System Based in an Outdated Market

The basis for the quota system is in administrative rule promulgated by the Board of Milk Control. Administrative rules require the board to keep record of quota owned and assigned to new or licensed producers. The board must also reallocate any quota from a producer leaving the market to the producers remaining, if the quota has not been bought by another producer.

While there are rules defining the procedure for readjusting quota, the Board of Milk Control is limited to only increasing the amount when market needs exceed the current amount of quota. The market conditions requiring an increase in quota include:

- ◆ When 83.5 percent of milk received is non-surplus Class I or II milk, and
- ◆ When utilization of Class I and II milk has increased from two years prior to the preceding year.

The language of the second condition also specifies that there will be no readjustment of quota if there is declining utilization from previous years. Current administrative rules do not include any calculations or considerations to be made to decrease quota when production needs decline.

Since there are only two scenarios outlined in administrative rule to increase quota, the bureau has not awarded additional quota since 2001. Additionally, the declining market has guaranteed that neither of the market triggers required for readjusting quota will occur until there is a severe uptick in production and utilization. With no ability to decrease the amount of quota owned by producers, the Milk Control Bureau continues to maintain a system that is based in an outdated market.

States Regulate Milk Supply in Varying Ways

As part of our work, we learned about milk market regulations in other states. We conducted interviews with representatives from the following states:

- ◆ North Dakota
- ◆ Maine
- ◆ Virginia
- ◆ Pennsylvania

These states were chosen because North Dakota has a similar sized industry and demographic information, as well as being a regional neighbor to Montana; Maine operates its milk industry through state regulations and a pooling structure; Virginia has an established base system (quota structure) that works similarly to Montana's; and Pennsylvania regulates milk from both Federal Milk Marketing Orders (FMMOs) and state regulated areas that include producer pools. Maine and Pennsylvania also have a Milk Marketing Board or Commission to oversee their milk industries, but do not have an established quota system to regulating milk supply.

Virginia's Base System Is Similar to Montana's Quota System

Virginia, like many east coast states, operates around FMMOs while maintaining state regulations for producers outside of the orders. The base system, administered by the State Milk Commission, helps ensure the state has an adequate supply of milk. Producers outside of the nearby FMMOs can choose to own base and currently 75 percent of producers do. The commission uses their first meeting of the fiscal year to adjust the base program since base is tied to retail sales of milk within the state. They are required by law to decrease base when sales decline but can increase base if needed. Though they can adjust the amount of base owned by producers, they keep it at roughly 108 percent of Class I milk sold in Virginia. If base drops below this threshold, they must decrease the amount by the same percentage.

The commission also uses a database to track all base amounts and transfers from producers. There are rules on how often a producer can increase or decrease their base through transfers. They track production records for the 25 percent of producers who do not own base with the state. If a producer produces less milk than what they own in base, they lose that difference in base for a calendar year. The commission allows producers the following year after losing base to "earn" back that production amount. If producers fail to meet their quota the following year, they lose that amount for good and their new base is set at their production level.

Regulatory Practices in Surrounding States Vary

Many of the states near Montana are either unregulated or under FMMOs. South Dakota, Colorado, Idaho, and Washington are all federally regulated. Colorado and South Dakota each have two FMMOs governing the milk markets. Wyoming and Utah have unregulated milk markets, though processing plants and producer cooperatives in those states have independently implemented regulatory practices for pricing and pooling. One similar process though in all states in the region is basing minimum producer prices on USDA Announced Prices and Pricing Factors. The milk markets in South Dakota, Idaho, and Washington are much larger than Montana's, so it is difficult to compare them. Additionally, Wyoming does not have an in-state processor, so all milk from the state is exported to processing plants in surrounding states.

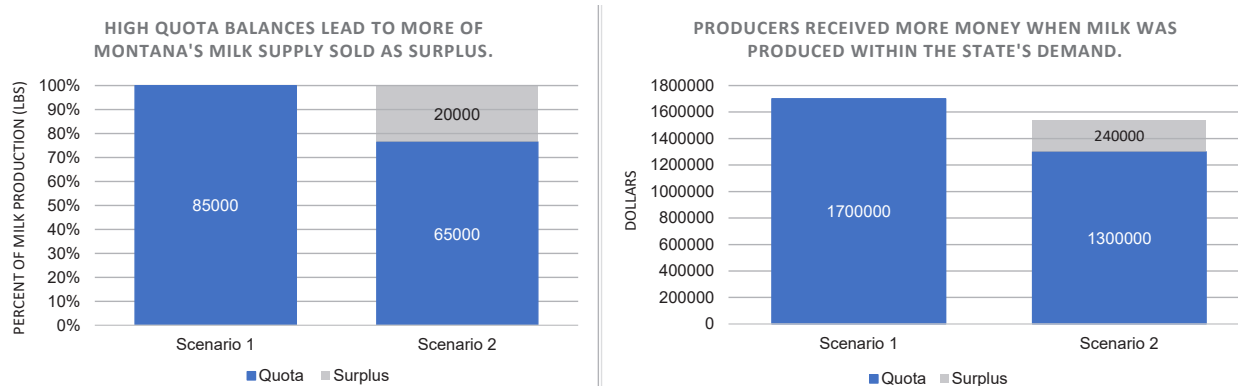
Production Levels Reveal the Value of Owning Quota for Producers Continues to Decrease

While milk production in Montana has been declining for years, production still exceeds current market needs. High quota balances and overproduction in the market generate inefficiencies in the market, negatively affecting producers. Milk produced beyond the state's needs is shipped to and sold in other states' markets. This is defined as surplus milk and priced less than milk sold within quota. This lower-priced surplus milk is used in the uniform price calculations, effectively decreasing the prices producers receive for their milk. Currently, many producers are not receiving quota price for milk produced within quota because of lower in-state market demand.

Figure 7 shows the difference in payments to a producer when current production no longer equals state demand. In previous years, a producer could theoretically sell all their milk within quota and receive quota prices for it. For example, if a producer owns quota equaling 85,000 pounds of milk, and all of that milk is sold within quota, they receive a payment of \$1,700,000 if quota milk is \$20 per pound. In recent years, demand for milk in Montana has dropped, though production has remained relatively the same. In scenario 2, the producer continues to produce 85,000 pounds of milk, but a portion of that milk must be sold to out-of-state markets when Montanans consume only 65,000 pounds of it. The milk sold out-of-state, known as surplus milk, is priced lower than quota milk at \$12 per pound. In Scenario 2, the producer now is paid \$1,540,000 for their milk when they were paid \$160,000 more in Scenario 1. The producer then receives a lesser payment compared to prior years because quota no longer reflects state demand more milk produced within the state is sold as surplus at a lower price.

Figure 7

Producers Receive Less Money Under the Current Quota System



Source: Compiled by the Legislative Audit Division.

When quota no longer reflects production levels, dairy producers in the state cannot depend on the quota system to adequately maintain the supply of milk, thus diminishing the value of owning quota. Producers benefit most from milk sold within quota as those prices are highest. If producers keep producing in excess of state demand, due to high quota balances, and surplus prices become a larger percentage of the uniform price calculations, there could be a negative impact on the entire industry as producers may not receive enough funds to continue operating their farms. Industry stakeholders and bureau staff acknowledge that the current quota system does not align with actual production and utilization in the state, thus making it an inefficient facet of market regulation.

Producers Are Comfortable With Their Daily Quota Though Rarely Produce at Quota

We surveyed current producers on a variety of industry topics, including quota, to understand their perspectives of the regulatory practices in place. We sent an electronic survey to 47 producers in January 2021 and received 29 individual responses for a response rate of 57 percent. Some of the questions focused on demographics and overall industry opinions, while others were targeted toward identifying the relationship between actual production and daily quota. Producers were also asked about their views on their own quota records.

We asked producers how much milk, in pounds, on average is produced each day at their dairy operation. We also requested information from producers regarding their quota, asking in the survey what percentage of their quota does their operation generally produce daily. Producers were given ranges for their response: 0-25 percent, 26-50 percent, 51-75 percent, 76-100 percent, and over 100 percent. The average amount of milk produced each day was about 17,500 pounds, and producers responded that they regularly produce between 75 and 100 percent of their quota. When asked, only one producer reported that they always produce above quota. We also asked producers to describe their opinion on their daily quota amount and producers could choose that quota was too low, somewhat low, just right, somewhat high, or too high. No producers responded that their quota was too low or somewhat low and the majority responded that their quota was just the right amount. This indicates that producers have a positive view on the quota system. However, the current quota system does not financially benefit producers if it does not reflect current production and market needs.

Montana's Milk Regulation Would Be More Effective With Updated Administrative Rules

Audit work found the Board of Milk Control and Milk Control Bureau should take steps toward improving the quota system to accurately reflect current production and industry needs. The board's inability to decrease the amount of quota has diminished the accuracy of the quota system, and therefore it is ineffective. In interviews with board and bureau staff, updating rule to allow for a decrease in quota has not been a priority for the board. Montana producers may view their quota as a property right or use their quota as collateral with banks. This creates some conflict with the board when determining how to decrease quota. This conflict, and the challenge in determining how best to go about removing quota, has hindered the board from acting on changing the administrative rules. Although, improving administrative rules by including provisions to decrease the amount of quota, and then doing so, would better position the Board of Milk Control to act on industry needs and changing markets.

RECOMMENDATION #1

We recommend the Department of Livestock and the Board of Milk Control:

- A. Pursue changes to administrative rule to allow for decreases in the amount of quota owned by dairy producers, and*
 - B. Decrease the amount of quota to reflect current milk production and Montana dairy industry needs.*
-

DEPARTMENT OF
LIVESTOCK

DEPARTMENT RESPONSE

STATE OF MONTANA

GREG GIANFORTE, GOVERNOR

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October 1, 2021

Mr. Angus Maciver
Legislative Auditor
Legislative Audit Division
PO Box 201705
Helena, MT 59620-1705

RECEIVED
October 1, 2021
LEGISLATIVE AUDIT DIV.

RE: Montana's Milk Industry: An Analysis of the State-Regulated Market

Dear Mr. Maciver,

Thank you for the opportunity to respond to the performance audit of the Board of Milk Control and Milk Control Bureau located within the Department of Livestock. The Board of Milk Control is not directed by the Department of Livestock staff and is attached for administrative purposes only. The audit recommends administrative rulemaking to adjust quota when necessary for the market. I have reviewed the recommendation contained in the report and provide our response on behalf of the Department.

Recommendation

The Department of Livestock and the Board of Milk Control should pursue rulemaking authority to decrease the amount of quota owned by dairy producers and decrease quota to reflect current milk production and Montana dairy industry needs.

Response: Concur

The Department of Livestock concurs with this recommendation. The chairman of the Board of Milk Control has been included as a recipient of the audit performance report and this response. The recommendation to pursue rulemaking authority as addressed in the legislative audit will be presented at the next Board of Milk Control meeting. The Department of Livestock is willing to work collaboratively with the Board of Milk Control and Bureau staff to explore options that address the milk quota system.

I want to thank you and your staff for the professionalism during the audit. We appreciate the willingness of the auditors to discuss recommendations and respond to our questions. We look upon the audit process as an opportunity to improve operations and performance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mike Honeycutt". The signature is stylized and cursive.

Mike Honeycutt
Executive Officer
Department of Livestock

CC: Ken Bryan, Chair of the Board of Milk Control
Brian Simonson, Deputy Executive Officer of Centralized Services
Darryl Ford, Program Supervisor of the Milk Control Bureau