



**Act No. 129 (2020) Report:
Vermont Dairy Industry Price Regulation:
Assessment and Recommendations**

**Michael S. Pieciak, Commissioner
January 15, 2021**

Report overview

This report is organized into four parts:

- (I) Legislative charge, stakeholder engagement, and data sources;
- (II) Evaluation of the sustainability of Vermont dairy farming under current regulatory and market conditions;
- (III) Possible alternatives and supplements to the current system of dairy market regulation; and
- (IV) Summary and conclusion.

I. Legislative charge, stakeholder engagement, and data sources

A. Legislative charge

Section 31 of Act No. 129 of 2020, an act relating to miscellaneous agricultural subjects, directs the Commissioner of the Department of Financial Regulation (the Department) to develop “an assessment of the long-term sustainability of Vermont dairy farming under the existing federal milk market order pricing system, current market conditions, and dairy cooperative operation.”¹ The report shall include:

- an evaluation of the long-term sustainability of dairy farming in Vermont under the current regulatory and market conditions; and
- recommendations for revising regulated dairy pricing and other market regulation in the State to improve the future viability of Vermont dairy farming.

In accordance with the Legislature’s directives, Commissioner Pieciak hereby submits this report to the Senate Committees on Agriculture and on Economic Development, Housing and General Affairs and the House Committees on Agriculture and Forestry and on Commerce and Economic Development.

B. Stakeholder engagement and data sources

Dairy price regulation is a very complex subject, subject to the adage that “only five people in the world know how milk is priced in the U.S. – and four of them are dead.”² Given the complexity of the subject matter, in preparing this report the Department leaned heavily on existing reports and literature analyzing the industry. We reviewed

¹ Act No. 129 (2020).

<https://legislature.vermont.gov/Documents/2020/Docs/ACTS/ACT129/ACT129%20As%20Enacted.pdf>

² American Farm Bureau Federation. How Milk Is Priced in Federal Milk Marketing Orders: A Primer. June 10, 2019. <https://www.fb.org/market-intel/how-milk-is-priced-in-federal-milk-marketing-orders-a-primer>

data contained in the 2018 and 2019 Reports and Recommendations of the Vermont Milk Commission³ (supplemented by additional, more recent data from the Vermont Agency of Agriculture, Food, and Markets (VAAFMM) and the website of the U.S. Department of Agriculture Federal Milk Marketing Order, Northeast Marketing Area⁴) and attempted to gain a balanced understanding of the issues facing the dairy industry by reviewing publications by various reputable academic, government, and trade sources including the Congressional Research Service, the Government Accountability Office, the United States Department of Agriculture, the American Farm Bureau Federation, the National Agricultural Law Center, the National Milk Producers Federation, the International Dairy Foods Association, Farm Credit East, Progressive Dairy, and Hoard's Dairyman.

We also consulted with a number of State and regional dairy experts. In particular, we owe a debt of gratitude to Diane Bothfeld, Director of Administrative Services and Dairy Policy for VAAFMM, and Daniel Smith, Esq., former founding Executive Director of the Northeast Dairy Compact Commission, each of whom made themselves available to us on multiple occasions and, being *two* people who understand the intricacies of milk pricing, serve to disprove the old adage above. In addition to Diane and Dan, the Department thanks the following individuals for providing us with information and advice on this report:

- Anson Tebbetts, Secretary, VAAFMM;
- Alyson Eastman, Deputy Secretary, VAAFMM;
- Steven Collier, General Counsel, VAAFMM;
- Laura Ginsburg, Agricultural Development Section Chief, VAAFMM;
- Abbey Willard, Director of Agricultural Development, VAAFMM;
- Thea Schwartz, Counsel, VAAFMM;
- Roger Albee, former Vermont Secretary of Agriculture;
- Catherine DeRonde, Vice President of Economics and Legislative Affairs, Agri-Mark Family Dairy Farms;
- Kiersten Bourgeois, Communications and Industry Affairs Manager, Dairy Farmers of America;
- Julie-Marie Bickford, Executive Director, Maine Dairy Industry Association; and
- Douglas Eberly, Chief Counsel, Pennsylvania Milk Marketing Board.

Unless specifically attributed, the views and opinions expressed in this report are those of the Department and do not necessarily reflect the positions of any of the individuals or organizations listed above.

³ Vermont Agency of Agriculture, Food, and Markets. Report and Recommendations of the Vermont Milk Commission. January 2018/2019. <https://agriculture.vermont.gov/milk-commission>

⁴ Northeast Marketing Area Federal Milk Marketing Order 1. <http://www.fmmone.com>

II. Evaluation of the sustainability of Vermont dairy farming under current regulatory and market conditions

Dairy is the largest agricultural industry in Vermont; it contributes approximately \$2.2 billion in economic activity to the State each year.⁵ Although dairy is a key part of Vermont's economy, individual dairy farmers across the state face serious challenges to their financial viability and, ultimately, to their long-term existence. While each farmer makes a number of choices that play a role in determining their bottom line, dairy farmers collectively share a core challenge: whether and how to continue to produce milk when the total costs of production exceed available purchase prices. In Act No. 129, the Legislature found that "the minimum pay price received by most dairy farmers in Vermont is regulated and established by the Federal Milk Market Order Program based on a complex formula, and under this formula, the regulated minimum price for Vermont dairy farms has been for many years set at an amount below the costs of production."⁶ In its 2019 report, the Vermont Milk Commission reached a similar conclusion and noted three direct impacts of depressed milk prices: (1) a decline in the number of Vermont dairy farms; (2) a decline in total milk volume produced; and (3) a leveling off of dairy product processing growth. Indirectly, these impacts have contributed to population declines in rural Vermont farming communities.⁷

A. The federal milk marketing order system

The federal milk marketing order (FMMO) system was instituted through federal legislation in the 1930's to aid farmers facing low market-based milk prices. The goals of the FMMO system are "to (1) promote orderly marketing conditions in fluid milk markets, (2) improve the income situation of dairy farmers, (3) supervise the terms of trade in milk markets in such a manner as to achieve more equality of bargaining between milk producers and milk processors, and (4) assure consumers of adequate supplies of good quality milk at reasonable prices."⁸

The FMMO system uses a series of complex formulas established by the U.S. Department of Agriculture (USDA) to determine the minimum prices that processors in a marketing area must pay milk producers or their agents—such as dairy cooperatives—for raw milk, with the specific price based on the milk's end use or classification (such as fluid milk, butter, cheese, or powdered whey). Class I fluid milk is typically assigned the highest value. Because demand for fluid milk has historically been thought to be relatively

⁵ Karen Karp and Partners. Vermont Dairy Marketing Assessment: Final Report. February 24, 2020. <https://agriculture.vermont.gov/document/vermont-dairy-marketing-assessment>

⁶ Act No. 129 (2020), *supra* note 1.

⁷ 2019 Report and Recommendations of the Vermont Milk Commission, *supra* note 3.

⁸ Joel L. Greene. Federal Milk Marketing Orders: An Overview. Congressional Research Service. December 13, 2017. <https://crsreports.congress.gov/product/pdf/R/R45044/3>

inelastic, fluid milk is priced higher “to assist in facilitating the balancing of fluid milk supply and demand as well as transportation costs.” However, fluid milk consumption has declined in recent years, “suggesting a review of the demand elasticity is warranted.”⁹

There are currently 11 geographically defined FMMO marketing areas. Vermont is part of the FMMO Northeast Marketing Area (the Northeast FMMO), which also includes Connecticut, Delaware, Massachusetts, New Hampshire, New Jersey, Rhode Island, Vermont, the District of Columbia, and parts of Maryland, New York, Pennsylvania, and Virginia. Under the Northeast FMMO, minimum milk prices are based on the weight of individual milk components (butterfat, nonfat solids, protein, and other solids). Order-wide milk receipts are pooled and a location-specific producer price differential (PPD) is added such that all producers delivering their milk to a specific location receive a statistical uniform price or “blend price” regardless of how their milk is used.

The PPD is the difference between the total value of the milk in the pool and the Class III component values. The PPD ensures that every producer is paid a “fair share” of the milk marketed in the region.¹⁰ In most cases, the PPD is a positive number because the FMMO values for the Class I, II, and IV components tend to be higher than the value for the Class III components in a pool. However, the PPD can also be negative, as was the case in 2020, if the Class III component value is higher than that of the other component classes.

The USDA announces advanced prices and pricing factors for Class I and Class II skim milk the month before the statistical uniform price is calculated. However, it does not announce Class II fat or Class III and IV prices until the following month, which means the final blend price is calculated and announced after the milk has been sold. In contrast, although organic milk is also subject to FMMO pooling and minimum prices, it tends to be purchased under long-term, forward-priced contracts. This gives organic producers the benefit of knowing in advance of production the price they will be paid for their milk. The statistical uniform price for the FMMO Northeast Marketing Area at Middlebury, Vermont for the past ten years is set forth in Table 1 below.

Table 1: Average federal order statistical uniform price for Middlebury, VT¹¹
Dollars per hundredweight

| 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| \$16.07 | \$19.99 | \$17.98 | \$19.60 | \$23.63 | \$16.49 | \$15.25 | \$16.78 | \$15.44 | \$17.47 | \$16.45 |

⁹ How Milk Is Priced in Federal Milk Marketing Orders: A Primer, *supra* note 2.

¹⁰ Gregg McConnell and Bill Zweigbaum. Understanding Producer Price Differential on Your Milk Check. Farm Credit East. <https://www.farmcrediteast.com/knowledge-exchange/Reports/understanding-producer-price-differential>

¹¹ Northeast Marketing Area Federal Milk Marketing Order 1, *supra* note 4.

The statistical uniform price is *not* the price Vermont producers receive for their milk. Their actual payments increase or decrease depending on factors such as quality and component premiums, transportation charges, and cooperative dues. The Department requested an accounting of payments made to Vermont milk producers under the Northeast FMMO from both VAAFMM and the Northeast FMMO administrator. VAAFMM does not have access to such an accounting of payments and the Department was told by the Northeast FMMO administrator that it is “unable to provide the data requested as it is an unpublished level of detail.” The Department lacks authority to compel the administrator to disclose the data. Instead, the administrator suggested we reference the New England mailbox price, which “is heavily weighted by Vermont value and pool pounds, and thus, is a very close proxy for prices received by Vermont producers.”¹² In other words, the New England mailbox price is a good approximation of what a Vermont producer receives for their milk. The average annual New England mailbox price for the past ten years is set forth in Table 2.

Table 2: New England mailbox price¹³
Dollars per hundredweight

| 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------------------------------|
| \$17.48 | \$21.39 | \$19.59 | \$21.51 | \$25.42 | \$18.55 | \$17.27 | \$18.65 | \$16.97 | \$19.01 | \$17.30 (through Sept.) |

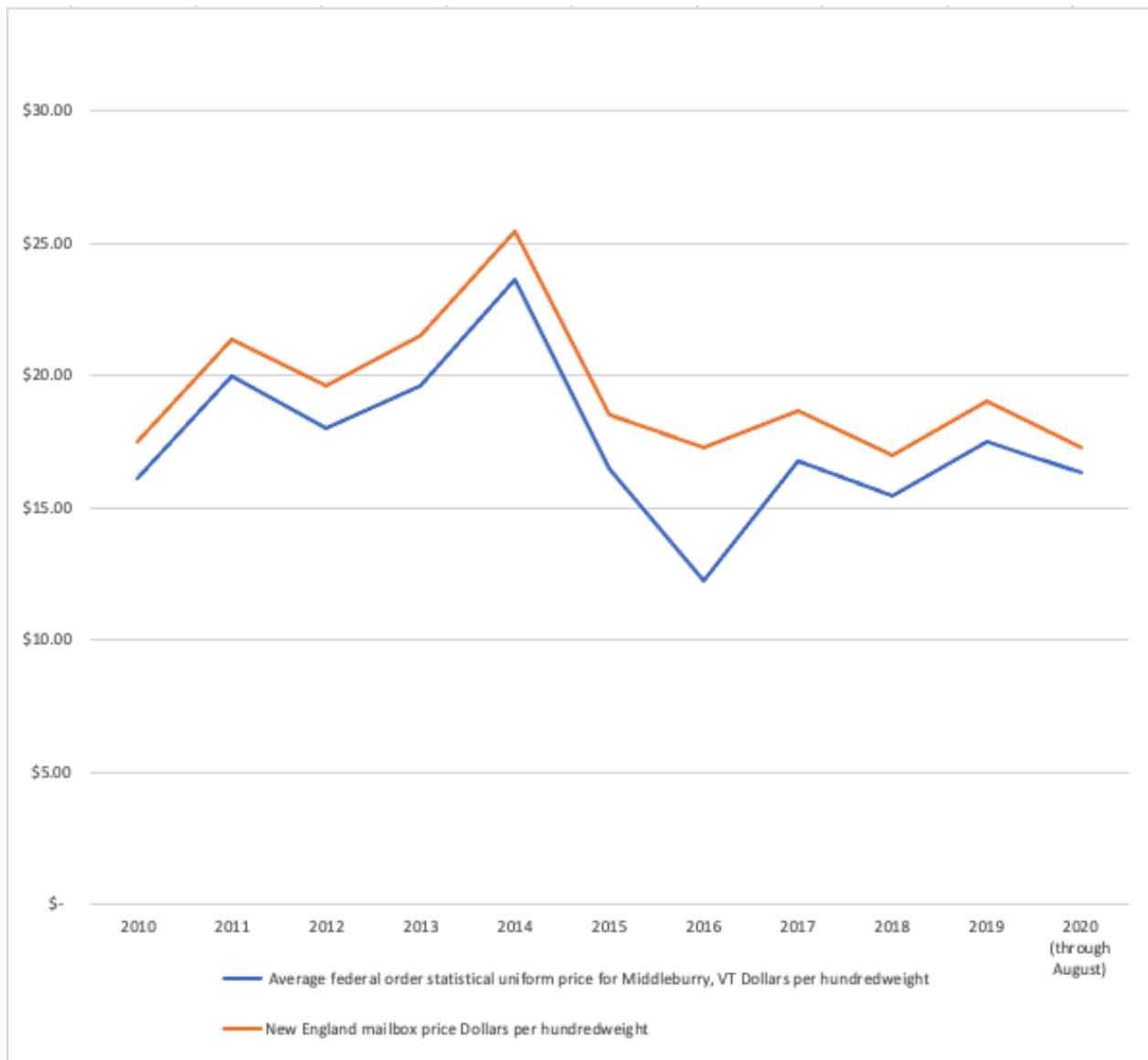
The graph below shows the margin between the mailbox price and the average annual blend price for Middlebury, Vermont for the past ten years, with \$1.64 being the average annual margin during this time frame. It should be noted that this calculation of average margin is very simplistic and likely overstates the average margin received by Vermont farmers. It is not adjusted to reflect the differences in location-adjusted blend prices paid for milk delivered to processors in Vermont vs. out of state—milk sent to be pooled at plants in New York is subject to a different PPD than that applied to milk pooled in Middlebury. The blend price may also be skewed by the relatively high amount of organic milk in the Northeast order and the inclusion of Maine’s over-order pricing (discussed in Section III(B)(1)).

¹² Email from Brian Riordan, October 5, 2020.

¹³ USDA 2020 Mailbox Milk Price Report.

<https://www.ams.usda.gov/sites/default/files/media/CurrentandYeartoDateMailboxPrices.pdf>

Average annual margin between the USDA statistical uniform price for Middlebury, VT and the New England mailbox price



The FMMO was created to be a neutral “regulator and calculator” and serves that function relatively well.¹⁴ By publicizing a monthly statistical uniform price, the FMMO provides farmers with access to data that can help inform their short- and long-term decisions. The FMMO system also ensures accurate, timely payments to individual farmers by establishing payment dates and auditing records of transactions between farmers, co-ops, and/or processors to ensure accuracy. These functions serve to protect all parties involved in a transaction and give small farmers a stronger voice that they otherwise might have. Through mandatory reporting, the Northeast FMMO administrator also captures a plethora of data on milk sales and end uses. The USDA periodically consolidates and publishes national, regional, state, and county-level data,

¹⁴ Call with Diane Bothfeld, December 21, 2020.

which can help inform analysis and decision-making by dairy stakeholders, governments, academics, and others.

B. Overview of the Vermont dairy market

There are currently 610 dairy farms in Vermont, down from 1,015 in 2010 and 1,995 in 1997.¹⁵ This represents a 37 percent decrease in the total number of dairy farms over the past ten years and a 69 percent decrease over the past 24 years. Organic farms represent 29 percent of all dairy farms in Vermont; there are currently 187 certified organic dairy producers in Vermont, down from 203 in 2010.¹⁶ Between 2010 and 2020, the number of conventional dairy farms decreased by 49 percent and the number of certified organic dairy farms decreased by eight percent.

Since at least 2010 there has been significant consolidation of dairy farms in Vermont as it has become increasingly difficult to operate a profitable small or medium sized dairy operation. Total Vermont milk production has remained relatively stable over the past ten years. At the same time, the average herd size has increased by 30 percent, from 135 to 191 milk cows per farm, and the total number of milk cows in Vermont has not declined substantially. Between 2010 and 2019, the total number of milk cows on conventional Vermont farms decreased by 10,000, from 134,000 to 124,000, less than a one percent decrease per year.¹⁷ This signals that dairy farms are consolidating to take advantage of scale economies. Dairy farming is not unique in this aspect—many industries, from utilities to media companies to banks are becoming increasingly consolidated. By expanding the scale of production, producers can take advantage of efficiencies that lower their proportionate costs. In general, the larger the operation, the lower the costs of production.¹⁸

Generational challenges may also contribute to the declining number of dairy farms. Given the difficulty of making a living by farming dairy, the next generation is increasingly opting out of the family dairy business. On the other hand, young people

¹⁵ USDA Census of Agriculture for Vermont.

https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1_Chapter_1_State_Level/Vermont/

¹⁶ Anson Tebbetts. Vermont Dairy Data. August 6, 2020, updated by VAAFm January 2020.

<https://legislature.vermont.gov/Documents/2020/WorkGroups/Senate%20Agriculture/COVID-19%20related/W~Anson%20Tebbetts~Vermont%20Dairy%20Data%20Summary~8-25-2020.pdf>

¹⁷ *Id.*

¹⁸ See James M. MacDonald, et. al. Consolidation in U.S. Dairy Farming. USDA Economic Research Service. July 2020. <https://www.ers.usda.gov/webdocs/publications/98901/err-274.pdf?v=9742.1>

who are interested in farming may have trouble getting started without access to land or the large amounts of initial capital required.¹⁹

Table 3 shows the average annual number of Vermont dairy farms, herd size, and production volumes for the years 2010 to 2020.

Table 3: Vermont dairy farms and production²⁰

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|------|------|------|------|------|------|------|------|------|------|------------------------|
| Ave. # of VT cow dairy farms | 1015 | 996 | 972 | 939 | 880 | 835 | 838 | 796 | 725 | 677 | 636 |
| Ave. # of cows per farm | 133 | 135 | 138 | 142 | 150 | 155 | 155 | 162 | 175 | 185 | 192 (through Nov.) |
| Certified organic cow dairy farms | 203 | 204 | 205 | 198 | 184 | 184 | 203 | 199 | 190 | 187 | 187 |
| USDA milk production (billions of lbs.) | 2.52 | 2.54 | 2.56 | 2.62 | 2.67 | 2.67 | 2.72 | 2.73 | 2.68 | 2.70 | 2.60 (through Nov.) |

A shift in recent years in consumer demand away from fluid milk may also contribute to dairy farm consolidation. Since 1980, per capita consumption of beverage milk has declined by almost 40 percent. Although Americans drink less milk today than in the past, we consume more dairy overall. U.S. per capita cheese and butter consumption have increased by approximately 119 percent and 38 percent, respectively, since 1980.²¹ “Prior to the 1980s, more than 50 percent of the milk regulated by USDA’s Federal Milk Marketing Order program was in beverage milk production. By 2015, only 33 percent of milk in the Federal Order program was in fluid milk.”²² Due to its perishable nature and the difficulty and expense of transporting it, fluid milk must generally be produced near the location where it is consumed. However, other dairy products such as cheese, butter, and dry milk are less perishable and bulky, and therefore may be trucked farther away from the point of production (or exported). “The shift in the composition of demand

¹⁹ John Dillon. “Surveyed Vermonters See Dairy As Key To State's Identity, But Farmers Say It's A Struggle.” VPR. October 22, 2019. <https://www.vpr.org/post/surveyed-vermonters-see-dairy-key-states-identity-farmers-say-its-struggle#stream/0>

²⁰ Vermont Dairy Data, *supra* note 16.

²¹ USDA Dairy Data. <https://www.ers.usda.gov/data-products/dairy-data/>

²² American Farm Bureau Federation. Trends in Beverage Milk Consumption. December 19, 2017. <https://www.fb.org/market-intel/trends-in-beverage-milk-consumption>

makes local production less important and tends to favor farms that are often quite large, in locations far from population centers.”²³

Table 4 demonstrates that the number of large dairy farms in Vermont is increasing while the number of small and medium farms is decreasing. Between 2011 and 2019, the number of large dairy farms (defined as those with 700 or more cows) increased by 83 percent, while the number of medium farms (200-699 cows) decreased by 29 percent and the number of small farms (under 200 cows) decreased by 35 percent. Even so, most of our dairy farms remain “small” under these definitions—in 2019, almost 80 percent of Vermont dairy farms had fewer than 200 cows.

Table 4: Vermont dairy cow farms by size—milking cows²⁴

| | Large farm operation (700 or more cows) | Medium farm operation (200-699 cows) | Small farm operation (under 200 cows) | Total |
|------|---|--------------------------------------|---------------------------------------|-------|
| 2011 | 18 | 148 | 830 | 996 |
| 2012 | 17 | 145 | 810 | 972 |
| 2013 | 17 | 142 | 780 | 939 |
| 2014 | 25 | 129 | 726 | 880 |
| 2015 | 26 | 127 | 700 | 853 |
| 2016 | 27 | 138 | 673 | 838 |
| 2017 | 32 | 117 | 647 / CFSO 250 ²⁵ | 796 |
| 2018 | 34 | 104 | 587 / CFSO 273 | 725 |
| 2019 | 33 | 105 | 539 / CFSO 268 | 677 |

The costs of producing milk are substantial. Although total average costs of production have decreased over the past ten years, they are still well in excess of total average production value.²⁶ Table 5 sets forth USDA average production costs and returns for 2012 through 2019. In the past three years, average returns have been negative, but appeared to be have been improving through 2019. More recent data has not yet been published so it is unclear if this trajectory has continued, but it is reasonable to surmise that COVID-19 impacted producers negatively in 2020.

²³ James M. MacDonald. Scale Economies Provide Advantages to Large Dairy Farms. USDA Economic Research Service. August 3, 2020. <https://www.ers.usda.gov/amber-waves/2020/august/scale-economies-provide-advantages-to-large-dairy-farms/>

²⁴ Vermont Dairy Data, *supra* note 16, updated by VAAFm January 2020.

²⁵ Certified small farm operation as of January 31, 2018; 50-199 cows.

²⁶ The Vermont Milk Commission noted in its 2018 report that “There are many different means to calculate the cost of producing milk and USDA Economic Research Service has a long history and consistent method of estimating the cost of producing milk.” Operating costs are feed, veterinary care and medicine, bedding and litter, marketing, fuel, repairs, etc. Total costs are operating costs plus labor, opportunity costs, taxes, insurance, and overhead.

Table 5: USDA milk production costs and returns²⁷

Dollars per hundredweight

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------------------|-----------|-----------|----------|-----------|-----------|----------|----------|----------|
| USDA Total Operating Costs -VT | \$21.23 | \$23.48 | \$22.43 | \$23.18 | \$21.42 | \$15.60 | \$17.00 | \$17.88 |
| USDA Total Costs -VT | \$34.16 | \$36.58 | \$35.85 | \$36.91 | \$35.52 | \$29.51 | \$31.25 | \$32.48 |
| USDA Total Gross Value of Production | \$23.05 | \$24.55 | \$29.25 | \$21.92 | \$19.96 | \$23.36 | \$21.48 | \$23.97 |
| USDA Difference to Operating Costs | \$1.82 | \$1.07 | \$6.82 | (\$1.26) | (\$1.46) | \$7.76 | \$4.48 | \$6.09 |
| USDA Difference to Total Costs | (\$11.11) | (\$12.03) | (\$6.60) | (\$14.99) | (\$15.56) | (\$6.15) | (\$9.77) | (\$8.51) |

The most recent available USDA data on average costs and returns for organic producers is from 2016. This data demonstrates that organic dairy farmers in Vermont are performing slightly better than their conventional peers, but they still struggle to cover their production costs. Thirty-five organic farms that participated in a 2016 study of Vermont organic dairy farm profitability earned an average return on assets (ROA) of 1.88 percent, compared to an average ROA of -.08 percent for similarly sized conventional farms. Higher organic prices are offset somewhat by higher organic farm expenses, including feed costs, repairs and supplies, labor, and depreciation. However, some per-cow costs, such as veterinary and medical expenses, fertilizers, fuel, and seed costs, may be lower for organic farms than small conventional farms. Overall, organic farms that participated in the study earned \$587 more per cow per year than similarly sized conventional farms.²⁸ Table 6 sets forth average costs and returns for Vermont organic producers for 2005, 2010, and 2016.

²⁷ 2019 Milk Commission Report, *supra* note 3, supplemented by USDA Milk Cost of Production Estimates. <https://www.ers.usda.gov/data-products/milk-cost-of-production-estimates/>

²⁸ Jon Walsh. Vermont Organic Dairy Farm Profitability 2016. Northeast Organic Dairy Producers Alliance. <https://nodpa.com/n/6/Vermont-Organic-Dairy-Farm-Profitability-2016>

Table 6: USDA organic milk production costs and returns²⁹

Dollars per hundredweight

| | 2005 | 2010 | 2016 |
|--------------------------------------|----------|-----------|----------|
| USDA Total Operating Costs -VT | \$17.62 | \$22.48 | \$22.64 |
| USDA Total Costs -VT | \$36.50 | \$45.50 | \$40.81 |
| USDA Total Gross Value of Production | \$26.87 | \$30.78 | \$38.58 |
| USDA Difference to Operating Costs | \$9.25 | \$8.30 | \$15.94 |
| USDA Difference to Total Costs | (\$9.63) | (\$14.72) | (\$2.23) |

Processors are another key component of the dairy industry, serving as a vital link between producers and consumers. It is crucial that any analysis of dairy pricing include a discussion of processors. Table 7 shows that, unlike producers, dairy processors in Vermont have increased in number over the past decade—by 56 percent—although most of these are very small, handling under 500 pounds of milk per day. Even with the increase in processors, the amount of Vermont milk processed in state has remained relatively stable over the past 15 years, ranging between 50 and 62 percent. Most of what is produced in Vermont is cheese, but also cream, skim milk, condensed skim milk, and dried milk powder, which are further processed to make a variety of products. The majority of fluid milk processing occurs out of state. Vermont processes more finished product than can be consumed by Vermonters; most finished dairy products are marketed to consumers outside of Vermont.³⁰

Table 7: Vermont dairy processors

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Off-farm dairy processors | 26 | 27 | 29 | 36 | 58 | 64 | 78 | 79 | 83 | 88 | 87 |
| On-farm dairy processors | 40 | 53 | 54 | 59 | 62 | 71 | 67 | 68 | 63 | 66 | 64 |
| Total dairy processors | 66 | 80 | 83 | 95 | 120 | 135 | 145 | 147 | 146 | 154 | 151 |

²⁹ USDA Organic Costs and Returns. <https://www.ers.usda.gov/data-products/commodity-costs-and-returns/organic-costs-and-returns/>

³⁰ Email from Diane Bothfeld, January 11, 2021.

Like many industries, dairy faced serious challenges in 2020. The uncertainties and volatility resulting from the COVID-19 pandemic caused many dairy farms and processors to shutter, including Thomas Dairy, a large Rutland-based processor. Overall, 39 dairy farms in Vermont also closed in 2020.

C. Dairy cooperatives

Most Vermont dairy farmers are members of one of the two large dairy cooperatives operating in Vermont: Agri-Mark Family Dairy Farms (Agri-Mark); and Dairy Farmers of America (DFA). Agri-Mark, based in the Northeast, has 164 member farms in Vermont. It recently merged with Cabot Creamery Cooperative. DFA, a large national co-op that recently merged with St. Albans Cooperative Creamery, has 13,400 member-owners nationwide and 342 member-owners in Vermont. The USDA has primary oversight responsibility over dairy cooperatives, although states also retain some regulatory authority.

Dairy cooperatives are owned and controlled by their member-owners. Although a board of directors and staff manage a co-op's day-to-day operations, national level and other significant decisions, such as those related to dairy promotion and federal order changes, are generally reserved for a vote by the membership.³¹ Cooperatives must have a one-vote per member structure, but some states (including Vermont) permit proportional voting based on a member's production volume for the previous year. Vermont law allows co-ops to determine the basis of voting by members, which may be "in proportion to the quantity of... products delivered by or handled for each member."³² While it may be argued that proportional voting takes away the voice of small farmers and shifts co-op decision-making into the hands of a few large producers, others may view the method as beneficial and fair—because it recognizes the contributions of individual members and encourages patronage of the cooperative.

Dairy co-ops provide crucial benefits to their members, including risk management, financing, insurance, marketing, and (importantly) enhanced market power. They coordinate the collection and transport of their members' milk, negotiate with processors on their members' behalf, and guarantee their members a market for their milk. In return, co-ops levy membership fees that account for marketing and other purposes. Co-ops distribute earnings to members annually in the form of patronage refunds. In most cases, part of a farmer's share is paid out in cash and part is retained in an equity account. This retained equity is used by the co-op to finance operations and investments. "In the short term, when cooperatives retain patronage refunds for investments, farmers may receive smaller cash payouts with the expectation that, over the long term, cooperatives will

³¹ Email from Diane Bothfeld, January 8, 2021.

³² 11 V.S.A. § 1001.

undertake investments that increase farmers' earnings." According to a 2019 report of the Government Accountability Office (GAO) on issues facing the dairy industry, this system of mandatory equity retention has benefits, but should be transparent and communicated effectively.³³

Co-ops that market and/or process milk in multiple FMMO markets may also "re-blend" their proceeds to pay their members a common price. Under the Agricultural Marketing Agreement Act of 1937,³⁴ "[c]ooperatives may average... the net proceeds of all their operations over all members, and are exempt from paying the blend price effective in any particular market."³⁵ However, neither Agri-Mark nor DFA engages in this practice.³⁶

"The role of a cooperative," according to Kiersten Bourgeois of DFA, "is to market milk and arrange for its sale and delivery to customers."³⁷ While some of that milk is sold in its raw form, some is processed by co-ops and sold in the form of butter, cheese, cream, or other products. Many large co-ops, including Agri-Mark and DFA, have diversified their operations by acquiring dairy processing plants. According to the 2019 GAO report, investing in processing facilities can positively impact co-op members' earnings (although it may also reduce market access for non-member farmers).³⁸ However, some have argued that serving as both milk seller—on behalf of their members—and milk processor creates a conflict of interest "because milk processors benefit from lower prices, while farmers benefit from higher ones."³⁹

Agri-Mark processes 70 to 80 percent of its members' milk in one of its four plants, two of which are in Vermont. Agri-Mark primarily manufactures cheese (including Cabot Vermont cheddar), but also butter, whey, nonfat dry milk, and buttermilk powder (the latter three being the byproducts of its cheese and butter production). DFA did not share the percentage of milk processed in Vermont, but said that it processes approximately 50 percent of its members' milk in its regional plants, including the St. Albans Creamery in

³³ Government Accountability Office. Dairy Cooperatives: Potential Implications of Consolidation and Investments in Dairy Processing for Farmers. September 27, 2019.

<https://www.gao.gov/assets/710/701795.pdf>

³⁴ 7 U.S.C. 601 et. seq.

³⁵ K. Charles Ling and Carolyn Betts Liebrand. Dairy Cooperatives' Role in Managing Price Risks. USDA Rural Business-Cooperative Service. September 1996.

<https://www.rd.usda.gov/sites/default/files/rr152.pdf>

³⁶ Email from K. Bourgeois, January 11, 2021; email from Catherine DeRonde, January 12, 2021.

³⁷ *Id.*

³⁸ Dairy Cooperatives: Potential Implications of Consolidation and Investments in Dairy Processing for Farmers, *supra* note 33.

³⁹ David Yaffe-Bellany. "America's Dairy Farmers Are Hurting. A Giant Merger Could Make Things Worse." *New York Times*. December 11, 2019. <https://www.nytimes.com/2019/12/11/business/dean-foods-dairy-farmers-antitrust.html>

Vermont (which separates milk, processes cream and skim condensed milk, and dries skim solids to powder).⁴⁰

Like many other parts of the dairy industry, co-ops have consolidated. In 2017 there were 118 co-ops in the U.S., compared to 1,244 in 1964, a 91 percent decrease.⁴¹ Dairy markets vary by region and, for this reason, co-ops historically tended to be formed by similarly situated farmers in one state or locality. However, as a result of consolidation, many co-ops are covering larger geographic areas and representing increasingly diverse interests. Their member-owners may be “farmers whose farms differ in characteristics such as size, type of operations, and ownership (e.g., corporate or family owned). Cooperatives’ members may also differ in other ways, including whether they are full-time or part-time farmers, or seasoned farmers with generations of dairy experience or farmers new to the dairy industry.”⁴² Co-op consolidation and diversification can benefit members by allowing them to access greater market opportunities, but it may also lead to changes in co-ops’ voting structures that tend to disadvantage small farmers.

D. Conclusion—the current FMMO system does not ensure adequate returns for Vermont dairy farmers

The Department agrees with the general consensus of experts and stakeholders that the Vermont dairy industry is struggling, primarily as a result of the imbalance between high costs of production and low FMMO minimum prices. This imbalance has been compounded in the past year by the increased market volatility brought about by the COVID-19 pandemic.

Although the FMMO may be meeting its stated goals of promoting orderly marketing conditions and ensuring an adequate fluid milk supply, it has not succeeded in improving the income situations of dairy farmers in Vermont to a degree that ensures their long-term viability. The fact that the number of Vermont dairy farms has decreased substantially—by 37 percent over the past ten years and 69 percent over the past 24 years—is evidence that the system is not working, at least for small and medium-sized dairy farms in Vermont.⁴³ Without the FMMO, however, minimum prices for milk and its components would become a function solely of local, national, and international market conditions, which would likely cause price volatility to increase.

⁴⁰ Email from Kiersten Bourgeois, January 8, 2021.

⁴¹ USDA Rural Development. Marketing Operations of Dairy Cooperatives: 2017.

<https://www.rd.usda.gov/files/publications/RR234MarketingOperationsofDairyCooperatives2017.pdf>

⁴² Dairy Cooperatives: Potential Implications of Consolidation and Investments in Dairy Processing for Farmers, *supra* note 33.

⁴³ While other factors contribute to the reduction in dairy farms, as discussed above, low market prices are a central component.

FMMOs are permanently authorized but may be amended through a formal public-hearing process. A variety of stakeholders are working to improve the price calculation, but the amendment process is lengthy and difficult. In our research, the Department identified at least two issues with the calculation: one is that there appears to be a misalignment between Americans' dairy consumption habits and the FMMO's pricing methodology. The minimum price is heavily dependent on Class I fluid usage, but in Vermont (as is the trend throughout the country), consumption and production are more heavily weighted toward other classes of dairy products.⁴⁴ The FMMO system is set up to enhance supply of beverage milk, a product for which demand is steadily decreasing.

The second issue concerns the "Class I fluid price mover." Prior to 2019, the Class I price was based on the higher of the Class III or Class IV price, which made hedging and forward price contracting difficult. The 2018 Farm Bill adjusted the Class I price formula such that it is now based on the average of the Class III and Class IV prices, plus 74¢ per hundredweight. This change was meant to be revenue neutral and was supported by stakeholders throughout the dairy industry; in fact, in 2019, it resulted in approximately \$39 million additional dollars to farmers.⁴⁵ However, Class III cheese prices increased dramatically in 2020 and the revised formula has proven to be damaging to producers in light of the pandemic's impact on dairy markets. The National Milk Producers Federation estimated that the current formula may result in \$800 million in revenue loss in 2020. The organization announced on January 11 that it supports revising FMMO pricing formulas, including the Class I price mover, to "remedy economic damage" and "better protect dairy farmers."⁴⁶

The Department does not take a position on the sustainability of the FMMO system as a whole, but rather agrees that changes to its pricing formulas may help ensure more adequate prices for all of Vermont's dairy farmers. Alternatives to business-as-usual under the FMMO, including efforts to supplement the FMMO system rather than replace it, are also worth considering and are discussed below.

III. Possible alternatives and supplements to the current system of dairy market regulation

In 2009, a federal agricultural policy analyst addressing dairy market volatility wrote that "two schools of thought appear to be emerging. One is to reduce price volatility through

⁴⁴ On the other hand, it should be noted that other stakeholders believe the trend is beginning to reverse.

⁴⁵ Jim Dickrell. "NMPF to Examine Potential Changes to Class I Skim Price Mover." *Dairy Herd Management*. <https://www.dairyherd.com/news-markets/milk-prices/nmpf-examine-potential-changes-class-i-skim-price-mover>

⁴⁶ National Milk Producers Federation. "NMPF Calls for more Equitable Class I Mover as Part of Push for Improved Dairy Pricing." January 11, 2021. <https://www.nmpf.org/nmpf-calls-for-more-equitable-class-i-mover-as-part-of-push-for-improved-dairy-pricing/>

some means of supply control while raising farm prices. The other is to allow the market to fluctuate and help farmers manage the resulting price risk through hedging strategies used by farmers in other parts of the agriculture sector.”⁴⁷ This section includes analyses of these and other possible alternatives or supplements to the current regulatory regime, as follows:

- (A) Risk management;
- (B) State milk marketing orders;
- (C) Regional compact;
- (D) Supply management;
- (E) Increased focus on organic; and
- (F) Increased support for innovation and farm management.

A. Risk management

Dairy prices tend to be volatile for many reasons, from the seasonality of milk production and the perishable nature of milk, to changes in export markets due to the fluctuation in global demand for dairy products, tariffs, and trade disputes. Prices in 2020 were particularly unstable because of the COVID-19 pandemic. Government-mandated shutdowns and limitations resulted in decreased demand for milk by restaurants, schools, and other institutions and increased demand for butter, cheese, and milk by grocery shoppers. The overall decrease in demand was offset in part by the federal government’s large purchases of dairy products, especially cheese, for food assistance programs.

Outside of the pandemic, variables that affect the supply of milk include the price of feed, the number of cows on a farm, the productivity of each cow, and weather. Demand for dairy products can vary based on consumer purchasing behavior (retail and food service) and international trade. Many dairy farmers have debt service obligations so maintaining a profitable margin between input costs and output prices in an unstable market is especially important.

Hedging strategies that employ derivative instruments are available to help farmers manage price volatility and protect their profit margins. Hedging allows a producer to use the commodities markets to defer risk related to future prices for milk, feed, energy, foreign currency, or a number of other inputs and outputs by using futures and/or options contracts. A milk futures contract is a binding legal agreement to buy or sell a set quantity and quality of milk at a predetermined price at a specified time and place in the future. A futures contract allows a milk producer to lock in current high prices they expect to decrease (or a processor to lock in current low prices they expect to increase). If

⁴⁷ Dennis A. Shields. Dairy Pricing Issues. Congressional Research Service. November 6, 2009.

<http://nationalaglawcenter.org/wp-content/uploads/assets/crs/R40903.pdf>

the selling price decreases as expected, it will be offset by gains in the futures market; if the selling price increases, however, it will also be offset by losses in the futures market.

The net result in a futures contract may also be impacted by the producer's basis. Basis risk is a reason many farmers may choose not to hedge. For milk, basis is the difference between the monthly mailbox price and the Class III milk price traded on the CME. Since producers generally sell a variety of classes of milk, not just Class III, and because the mailbox price may be impacted by hauling costs, quality premiums, and other factors, basis can be difficult to calculate. "If basis risk is as large as milk price risk, then little motivation exists to hedge milk price... It is clear that a great deal of variation exists in the milk price basis, which mitigates the motivation to hedge to some degree."⁴⁸

An options contract is another risk management tool used in conjunction with a futures contract. A milk options contract gives a farmer the opportunity to buy (a call option) or sell (a put option) the underlying milk futures contract for a specific price within a specific period of time. This strategy is more complex; a good overview may be found in the CME publication "Introduction to Hedging with Dairy Futures and Options."⁴⁹

Farmers may either hire a broker to hedge milk futures directly through the Chicago Mercantile Exchange or forward contract through their co-op. Though it may offer a more individualized strategy, hedging directly through a broker requires a minimum volume of milk production and enough cash to fund a margin account, neither of which may be feasible for small or medium-sized producers.

Cooperatives make hedging more attainable for many farmers. Grouping several producer members together when taking a contract position allows farmers with smaller production volumes to participate. Co-ops can also handle margin requirements for participants, which reduces transaction costs. Whether on an individual basis or through a co-op, hedging is a good tool to manage dairy pricing volatility. It is unclear what percentage of dairy farms utilize hedging strategies.

The USDA offers two additional risk management programs for dairy producers: Dairy Revenue Protection (DRP) and the Dairy Margin Coverage (DMC) Program. DRP is a federal crop insurance product that was introduced in October 2018 and allows producers to insure against "unexpected declines in the quarterly revenue from milk sales relative to a guaranteed coverage level."⁵⁰ DMC is a voluntary risk management

⁴⁸ C.A. Wolf. Dairy Farmer Use of Price Management Tools. Journal of Dairy Science. July 2012.

<https://www.sciencedirect.com/science/article/pii/S0022030212003967>

⁴⁹ CME Group. Introduction to Hedging with Dairy Futures and Options.

<https://www.cmegroup.com/trading/agricultural/files/introduction-to-dairy-futures-and-options.pdf>

⁵⁰ USDA Risk Management Agency. Dairy Revenue Protection. April 2019.

<https://www.rma.usda.gov/en/Fact-Sheets/National-Fact-Sheets/Dairy-Revenue-Protection>

program that was introduced in the 2018 Farm Bill (as a successor to the Margin Protection Program for Dairy). DMC offers protection when the margin between the milk price and the average feed price falls below a certain dollar amount selected by the producer. To qualify for DMC, a farm must have a history of production verified by the USDA and pay an annual fee. Once verified, the farm chooses their level of coverage per hundredweight.⁵¹

In 2019, 82 percent of milk producers participated in the DMC program, with most selecting coverage at the highest margin level of \$9.50. In the first six months of 2019, the margin averaged \$8.57 and the DMC program made payments to farmers totaling approximately \$312 million nationwide. Milk prices were higher in the second half of 2019 and the DMC program made no payments. As 2020 approached, dairy producers generally expected milk prices to continue to rise and, as a result, only 48 percent of dairy farms signed up for DMC in 2020. Due in part to the COVID-19 crisis, the National Milk Producers Federation estimates dairy losses in 2020 could top \$6 billion. For those with margin coverage, some of these losses will be offset. Unfortunately, however, fewer than half of all dairy farmers will benefit from margin coverage payments in 2020.⁵²

While risk management products provide important protection for many farmers, they depend on a relatively high level of foresight, sophistication, and free capital. Inevitably, not all producers use them. Enhanced opportunities for education in the area of risk management may benefit many dairy industry participants and encourage the use of available tools. Risk management is a part of ensuring sustainability—and an important one—but it helps mitigated losses and is not an answer to the structural problems faced by the dairy industry.

B. State milk marketing orders

Some states, including Maine, Montana, North Dakota, and Pennsylvania, have established their own state-regulated milk marketing orders. In some of these states, milk pricing is regulated partially by the FMMO and partially by a state order. There are many issues at stake when exploring the possibility of state dairy pricing regulation in Vermont. These include the legality, feasibility, and the probability of success. In this section, the Department provides an overview of the state pricing schemes in Maine and Pennsylvania, sets forth some of the practical issues the Legislature must examine in determining whether a state order system would work in Vermont, and analyzes the legal landscape related to state regulation of milk pricing.

⁵¹ USDA Dairy Margin Coverage Program. www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/FactSheets/2019/dairy_margin_coverage_program-june_2019_fact_sheet.pdf

⁵² Joel L. Greene. Pandemic Weakening Milk Prices; Industry Calls for Policy Action. Congressional Research Service. April 10, 2020. <https://crsreports.congress.gov/product/pdf/IN/IN11326>

1. **Maine's state order**

Under Maine's state order system, the Maine Milk Commission (MMC) sets minimum producer prices for fluid milk produced, processed, and sold in the state. Roughly 95 to 97 percent of the milk produced in Maine is processed in Maine.⁵³ However, since Maine's two major processors sell more than 25 percent of their finished products into the Northeast FMMO pool, they remain are to the FMMO.⁵⁴ For this reason, the "vast majority" of Maine producers, which sell their milk to these processors, are paid the FMMO minimum pricing for their milk.⁵⁵ Only a small percentage of Maine producers that sell their milk to smaller processors that predominantly market their products in state must be paid state minimum producer prices set by the MMC.⁵⁶

Maine's state minimum producer price is based on the FMMO price plus a reflective regional premium that is periodically adjusted based on market conditions. The MMC analyzes Maine and regional market conditions on a monthly basis to determine how the minimum price should be adjusted based on costs of production. Setting prices too high may incentivize processors to source lower-cost milk from out of state. The MMC is mindful to avoid placing Maine processors at a competitive disadvantage because of higher input costs.⁵⁷

In addition to minimum producer prices, the MMC also sets minimum wholesale and retail prices that apply to all milk sold in Maine. Minimum wholesale prices "reflect the lowest price at which milk purchased from Maine producers at Maine minimum prices can be received, processed, packaged and distributed to retailers within the state at a just and reasonable return [or processor margin]."⁵⁸ The minimum retail price includes a reasonable rate of return to the retailer. Both the minimum processor margin and the retail rate of return are based on cost studies required to be performed every three years and generally include an industry-standard 2.5 percent return on investment.⁵⁹

Maine offers an optional "quality seal" to processors that use 100 percent Maine-sourced milk that is also free from recombinant bovine somatotropin (rBST), an artificial hormone that helps increase milk production. This state branding option is intended to encourage

⁵³ Aside from that used by a small number of artisan cheesemakers, all organic milk produced in Maine is processed out of state.

⁵⁴ See Northeast Marketing Area Federal Order One.

http://www.fmmone.com/Order_Language/Order_Language.pdf.

⁵⁵ Maine's authority to set minimum producer prices is limited to milk produced, processed, and sold within Vermont. See legal analysis in Section III(B)(3).

⁵⁶ Call with Julie-Marie Bickford, January 8, 2021.

⁵⁷ Email from Julie-Marie Bickford, January 12, 2021.

⁵⁸ Maine Milk Commission. How Prices are Established.

<https://www.maine.gov/dacf/milkcommission/established.shtml>.

⁵⁹ Call with Julie-Marie Bickford, January 8, 2021.

processors to source Maine milk and is used by at least one of the major fluid milk processors in Maine. A Maine law that requires 30-day notice to the state Commissioner of Agriculture before a processor cuts off a milk supply channel both serves as a safety net for producers and effectively discourages processors from price-shopping. Because of the perishable nature of milk, the law is intended to provide a producer sufficient time to safely find another processing home for its milk in the event a sourcing agreement is discontinued. “The 30-day rule is based on a formal or assumed contract between processor and producer (or the farmer’s co-op and the producer) that the milk which is produced every day will have a ‘home’ and be picked-up every day” unless the processor gives the required 30 days’ notice to terminate this agreement.⁶⁰

In addition to a state order system, Maine employs a dairy support system called the Maine Dairy Stabilization Program or “tier program.” The program, established in 2005, supports dairy farmers by making payments to them from the state’s general fund when the FMMO price for milk is lower than their costs of production.⁶¹ The amount of each payment depends on a farmer’s current level of production for the year, or tier level. Each farm’s production level is set at zero at the beginning of each calendar year; as their production increases, they move through the tier levels, which determines the monthly payment they receive under the program (higher production levels correspond to lower fees per hundredweight). The program’s intent is to “fill the gap between the price paid to the farmers [for milk] and what it is actually costing them to produce it... The goal of the program is not profitability but financial stability.”⁶² The Maine legislature had originally planned to adjust statutory tier levels every three years based on cost studies. However, tier levels have not been adjusted since 2012, mostly because of the impact it would have on the state’s general fund balance.⁶³

Although tier program payments are made from the state’s general fund, the program is partially funded with milk handling fees that are assessed on all milk sold in Maine. These fees must be paid by the first Maine entity to touch the milk. Maine law defines handler, with respect to a container of milk, as “the wholesale handler or, if none, the producer-handler or the retail handler. If more than one wholesale handler handles a particular container of packaged milk in this State, ‘handler’ means the wholesale handler

⁶⁰ Email from Julie-Marie Bickford, January 12, 2021.

⁶¹ In the early 1990s, Maine had a different program in place, which assessed a five-cent fee per gallon of milk sold. This fee was deposited into a dedicated account and redistributed monthly to Maine producers. After Massachusetts established a similar program, it was challenged in court and struck down under the dormant Commerce Clause (and analysis of the Constitutional issues involved in that case—*West Lynn Creamery v. Healy*—is included in Section III(B)(4)). In response, Maine changed its program such that assessed fees were paid into, and producer payments made from, the state’s general fund. The previous program was repealed when the Northeast Dairy Compact was put into place.

⁶² Call with Julie-Marie Bickford, January 8, 2021.

⁶³ Email from Julie-Marie Bickford, January 12, 2021.

that first handles a particular container of packaged milk.”⁶⁴ The first Maine entity to touch the milk may be a co-op, an in-state processor, or (if milk is produced outside of Maine) a distributor or retailer. The fee increases incrementally as the price of milk decreases. Milk handler fees are deposited into the state’s general fund but, according to Julie-Marie Bickford of the Maine Dairy Industry Association, the handling fee finances only a portion of the tier program. Maine’s Legislature includes a line item for tier program expense in the state’s annual budget and the amount of program funding required by the state each year is significant.⁶⁵

The Maine system of minimum producer, wholesale, and retail milk prices, plus the milk handling fee and the tier program, necessarily results in higher prices paid not just by processors, but also by retailers and consumers. However, according to Bickford, the system is successful because the state administration, Legislature, and consumers support the public policy goal of aiding and maintaining Maine’s dairy farms and rural communities. “It’s not as much a land-based support system as a true economic investment in the rural economy.”⁶⁶

Maine had 395 dairy farms in 2004, prior to the establishment of the tier program. In 2021, the number has decreased by over 50 percent to 196.⁶⁷ The volume of Maine production, however, has remained relatively stable since 2004 (increasing by 1.4 percent between 2004 and 2019).⁶⁸ This signals that dairy farms in Maine, like dairy farms in Vermont and other industries across the globe, are becoming more efficient and increasingly consolidating to take advantage of economies of scale.

A 2018 empirical study found that the Maine tier program has had a substantial positive impact on the dairy industry in the state, specifically by “reducing the number of farms that exit, keeping farms in business longer and increasing farm profits.” The impact of the program has been greatest on small farms with the highest production costs. According to the study authors, “the Maine dairy relief program creates effective price floors that increase the profitability of Maine dairy farms, stabilize profits and reduce producer uncertainty.”⁶⁹

Although its state minimum producer prices have limited effect because Maine does not have full authority to regulate its two largest processors, the state regulatory regime

⁶⁴ Maine Revised Statutes, Title 36, Section 4901.

⁶⁵ Call with Julie-Marie Bickford, January 8, 2021.

⁶⁶ *Id.*

⁶⁷ Number of farms producing milk, sourced from the Maine Milk Commission production records, as provided by email from Julie-Marie Bickford, January 12, 2021.

⁶⁸ USDA Dairy Data, *supra* note 21.

⁶⁹ Xuan Chen, et. al. Is the Dairy Relief Program Really Working? Evaluating Maine’s Tier Payment Program Using a Simulation Approach. *Sustainability*. September 30 2018. <https://www.mdpi.com/2071-1050/10/10/3514>

works because it combines minimum producer pricing with minimum wholesale and retail pricing and a tier program that uses handler fees and general funds to directly subsidize farmers. In addition, Maine has unique attributes that may contribute to this success: it has a relatively small number of dairy farms; the amount of milk produced is about equivalent to the amount of dairy consumed in the state; and its geography (being bordered on three sides by Canada and the ocean) effectively limits how much milk can move in and out of the state. According to Bickford, whereas dairy processors in Massachusetts challenged that state's attempt to establish a similar dairy support program, dairy processors in Maine have "seen the positive" and generally support Maine's program.⁷⁰

2. Pennsylvania's state order

The Pennsylvania Milk Marketing Board (PMMB)—an independent agency established by the state Legislature—administers a comprehensive state dairy regulation and pricing system "from the cow to the consumer."⁷¹ Like the MMC, the PMMB sets (1) minimum producer prices for milk produced, processed, and sold in the state and (2) minimum wholesale and retail prices for all milk sold in Pennsylvania, regardless of where it is produced or processed.

The minimum producer price, which applies to Class I and Class II fluid products, includes a premium on Class I fluid milk above the FMMO minimum price. As part of the minimum producer price, this over-order premium (OOP) "is included in the minimum wholesale and retail prices established by the [PMBB]. The over-order premium flows back through retail sales to wholesale sales and is then paid by processors to Pennsylvania producers as part of the minimum producer price due."⁷² The OOP and minimum wholesale and retail prices are based on the costs to produce, process, distribute, and sell milk in Pennsylvania. The PMBB adjusts these prices periodically based on evidence presented at public hearings.

To encourage efficient and lower-cost production methods, the PMBB bases minimum prices on the average costs of a cross-section of the dairy market. Inefficient processors and retailers "will either lose business because they must sell at prices above the minimum price, or they will lose money by selling at minimum prices, which are below their costs."⁷³ The over-order premium returns between \$1 million and \$2.5 million to Pennsylvania producers each month.⁷⁴ The Pennsylvania Legislature reviewed PMBB

⁷⁰ Call with Julie-Marie Bickford, January 8, 2021.

⁷¹ Commonwealth of Pennsylvania Milk Marketing Board. PMBB Overview. <https://www.mmb.pa.gov/Legal/Documents/PMMB%20Overview.pdf>

⁷² Commonwealth of Pennsylvania Milk Marketing Board. PMBB Fact Sheet. <https://www.mmb.pa.gov/Legal/Documents/PMMB%20Fact%20Sheet.pdf>

⁷³ PMBB Overview, *supra* note 71.

⁷⁴ PMBB Fact Sheet, *supra* note 72.

data from 2008 through 2018 and found that during that period, the OOP ranged from a low of \$0.83 to a high of \$3.19 per hundredweight. During that same timeframe, more than \$408.1 million was paid in OOP.⁷⁵

Retail prices in Pennsylvania's major markets do appear to be relatively high compared to other states. In 2020, a gallon of conventional whole milk averaged \$4.45 in Philadelphia and \$4.32 in Pittsburgh; the second and third highest retail prices among 30 cities across the country, as collected and compiled by the USDA. These prices were 24 and 20 percent higher, respectively, than the U.S. simple average price of \$3.60.⁷⁶

According to Douglas Eberly of the PMBB, however, Pennsylvania's state pricing regulation has helped support both farmers and processors in the state—Pennsylvania has one of smallest average herd sizes in the country and one of the highest production levels—and helps keep processors in business by ensuring they receive adequate prices at wholesale.⁷⁷ Eighty-one percent of Pennsylvania dairy farms in 2017 had fewer than 100 cows and, in 2019, Pennsylvania milk production volume was second highest in the Northeast, behind New York, and seventh highest in the nation.⁷⁸ Pennsylvania had 5,730 dairy farms in 2020,⁷⁹ down from 11,981 in 1997,⁸⁰ a 52 percent decrease over 24 years. While significant, this is less startling than Vermont's 69 percent decline over the same time period.

Pennsylvania currently has 38 fluid milk processors, about half of which are large enough that the PMBB includes them its market cross-section for purposes of calculating minimum prices. In 2019, approximately 30 percent of the milk produced in Pennsylvania was processed at one of the state's fluid processing plants. Eberly can recall only one of the large processors having closed in the past 20 years and states that Pennsylvania's processors are not consolidating.⁸¹

Critics may object to the PMBB's setting of artificially high minimum prices or argue that state-mandated minimum prices reduce or eliminate competition. Some critics also point

⁷⁵ Pennsylvania Legislative Budget and Finance Committee. A Study of Pennsylvania's Dairy Industry. September 2019. <http://lbfc.legis.state.pa.us/Resources/Documents/Reports/653.pdf>

⁷⁶ USDA Retail Milk Prices Report. <https://www.ams.usda.gov/sites/default/files/media/RetailMilkPrices.pdf>.

Interestingly, the highest price was in Kansas City, Missouri, a state subject to the FMMO.

⁷⁷ Call with Douglas Eberly, January 5, 2021.

⁷⁸ USDA Dairy Data, *supra* note 21.

⁷⁹ Pennsylvania Dairy Future Commission. Recommendations for a Vibrant Future for the PA Dairy Industry. August 1, 2020. <https://www.centerfordairyexcellence.org/wp-content/uploads/Report-of-the-PA-Dairy-Future-Commission-2020.pdf>

⁸⁰ USDA Census of Agriculture for Pennsylvania. https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1_Chapter_1_State_Level/Pennsylvania/

⁸¹ Email from Douglas Eberly, January 11, 2021.

to the issue of “stranded premium.” Most processors do not obtain 100 percent of their milk from Pennsylvania producers; rather, they buy some of their milk from out of state at lower prices. For that reason, they pay less than the full OOP on the milk they use in their operations. However, because they receive state minimum wholesale prices on 100 percent of their manufactured products, they earn back a premium price on all of the milk utilized, regardless of where it was produced. In essence, processors often earn a premium on a higher percentage of their output than they pay on their input.

According to Eberly, the PMMB attempts to prevent processors and retailers from obtaining lower-priced milk from outside of Pennsylvania, by determining the OOP with the regional market in mind.⁸² At evidentiary hearings, stakeholders have the opportunity to testify about state and regional market conditions and make recommendations about changes to the OOP.

A joint committee of the Pennsylvania Legislature concluded in 2019 that if the PMBB were to be eliminated, producers would be negatively impacted and become vulnerable to non-payment by processors, retail price wars would likely escalate (which may benefit consumers in the short term but would “have devastating trickle-down effects to processors and producers”), and there would ultimately be ripple effects to local economies that stem from producers and processors going out of business.⁸³ On the other hand, although Pennsylvania has experienced a lower rate of dairy farm attrition than Vermont, the state order system seems not to have prevented a significant decrease in the number of farms or the rate of farm consolidation.

3. Legal analysis of state order pricing

The most plausible legal challenges to the validity of a state pricing scheme would likely arise under the Supremacy Clause and the dormant Commerce Clause of the United States Constitution. While each of these subjects is complex and the case law marred with subtle distinctions, a state pricing scheme can likely be legally viable if it is drafted and enacted with care.

The Supremacy Clause establishes that a state law may not interfere with the purposes and objectives of the Constitution or any federal law.⁸⁴ Federally-regulated milk dealers are required by federal law to pay a minimum price for the milk they purchase from dairy farmers; a state pricing scheme cannot disrupt the purposes and objectives of the federal regulation. In *Grant’s Dairy – Maine, LLC v. Commissioner of Maine, Department of Agriculture*, the U.S. Court of Appeals for the First Circuit articulated multiple objectives

⁸² Call with Douglas Eberly, January 5, 2021.

⁸³ A Study of Pennsylvania’s Dairy Industry, *supra* note 71.

⁸⁴ The U.S Constitution and the Federal laws “shall be the supreme Law of the Land ... anything in the Constitution or Laws of any State to the Contrary notwithstanding” U.S. Const. art. VI, cl. 2.

of the FMMO and upheld Maine’s statutory milk pricing scheme, which it determined does not obstruct the federal objectives.⁸⁵

The Commerce Clause gives Congress the power “[t]o regulate Commerce...among the several States.”⁸⁶ The dormant Commerce Clause, a well-established legal doctrine inferred from the express text of the Commerce Clause, “prevents state and local governments from impeding the free flow of goods from one state to another.”⁸⁷ Therefore, a state pricing scheme may not discriminate against interstate commerce. The decisions in *Grant’s Dairy and West Lynn Creamery, Inc. v. Healy (West Lynn)*⁸⁸ illustrate two fact patterns with different decisions as to whether a state milk pricing scheme is valid or invalid based, in part, on whether it violates the dormant Commerce Clause.

In *Grant’s Dairy*, the U.S. Court of Appeals upheld Maine’s statutory scheme because it was not (1) preempted under the Supremacy Clause, nor did it (2) violate the dormant Commerce Clause. Under the facts of the case, a milk dealer (*Grant*) had alleged that Maine’s statutory scheme was preempted by federal law. Dealers are required by federal law to pay a minimum price for the raw milk that they purchase from Maine dairy farmers, which price is adjusted based on the location of the dairy farm. The Maine statutory scheme, on the other hand, allows the MMC to set a uniform minimum price that Maine dealers must pay to Maine dairy farmers for milk sold in Maine, without any price adjustment for location. Maine’s statutory minimum price is equal to or higher than the federal price that would otherwise apply.

Grant contended that Maine’s statutory scheme neutralized the federal system’s location adjustment by forcing a federally-regulated dealer to pay a non-location-adjusted state minimum price exceeding the location-adjusted federal minimum price. Applying an implied preemption analysis as to “whether ‘under the circumstances of [the] particular case, [state] law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress,’” the court found that Maine’s non-location adjusted minimum prices did not conflict with the federal milk price regulation objectives and thus were not in violation of the Supremacy Clause.⁸⁹

⁸⁵ Some of the articulated objectives include “to guarantee producers parity prices, to protect the health and purses of consumers, to establish and safeguard orderly marketing conditions, and to assure to each area of the country a sufficient quantity of pure and wholesome milk.” *Grant’s Dairy – Maine, LLC v. Commissioner of Maine, Department of Agriculture*, 232 F.3d 8, 16, 17 (2000).

⁸⁶ U.S. Const. art. I, § 8, cl. 3.

⁸⁷ *Grant’s Dairy*, 232 F.3d at 18, citing *Houlton Citizens’ Coalition v. Town of Houlton*, 175 F.3d 178 (1st Cir. 1999).

⁸⁸ *West Lynn Creamery, Inc. v. Healy*, 512 U.S. 186 (1994).

⁸⁹ The court articulated the federal milk price regulation objectives as follows: “to guarantee producers parity prices, to protect the health and purses of consumers, to establish and safeguard orderly marketing conditions, and to assure to each area of the country a sufficient quantity of pure and wholesome milk;”

The court in *Grant's Dairy* also held that Maine's milk scheme does not violate the dormant Commerce Clause because it does not discriminate against out-of-state milk handlers— the state minimum producer price applies only to in-state purchasers. Finding no interstate discrimination, the court noted that “out-of-state handlers, unlike in-state handlers, do not have to pay the Maine minima. Nevertheless, this distinction is irrelevant for Commerce Clause purposes because the state system does not advantage Maine handlers at the expense of out-of-state handlers. Quite the contrary: it is Maine handlers (whether fully federally regulated or not) and, by extension, Maine consumers, who shoulder a burden for the benefit of Maine producers.”⁹⁰

The court also analyzed whether there was any discriminatory economic protectionist purpose to the Maine statute. Grant cited a number of statements he believed demonstrated a discriminatory purpose, but the court found those statements consistent with the non-discriminatory purposes articulated in the Maine statutory scheme, namely “insuring ... an adequate supply of pure and wholesome milk to the inhabitants of this State” and “stabilizing prices to producers.”⁹¹ Finally, the court rejected Grant's argument that the burdens outweigh the benefit conferred by the Maine statutory scheme. Since Grant did not substantiate anything beyond a possible modest burden on interstate commerce, the court found the modest burden to be outweighed “by the benefits Maine seeks to secure by imposing minimum prices benefits that include ensuring an adequate in-state supply of milk at reasonable prices and maintaining market stability.”⁹² The court stated that “the great weight of authority holds that state regulation of milk prices is not preempted by the extant federal regime.”⁹³

*West Lynn*⁹⁴ is another instructive case on state milk pricing schemes. In that case, the U.S. Supreme Court invalidated a Massachusetts state program because it violated the

and the objectives of the federal location adjustment to include recognizing the additional cost borne by the milk dealer for certain locations and to move milk from areas of great supply to areas of shortage. The court found that the Maine minimum price promotes price equality for Maine dairy farmers without in any way detracting from the orderliness of the market and contributes to the promotion of an adequate supply of milk by assuring Maine producers of a steady, predictable income stream (which in turn encourages production). *Grant's Dairy*, 232 F.3d 8 at 16.

⁹⁰ *Grant's Dairy*, 232 F.3d 8 at 20.

⁹¹ *Id* at 23, citing Me.Rev.Stat. Ann. tit. 7, § 2954(2) & (9).

⁹² *Id* at 24, citing Me.Rev.Stat. Ann. tit. 7, § 2954(2) & (9).

⁹³ *Id* at 18; citing *Crane v. Commissioner of Dep't of Agric., Food & Rural Res.*, 602 F.Supp. 280 (D.Me. 1985); *Schwegmann Bros. Giant Super Mkts. v. Louisiana Milk Comm'n*, 365 F.Supp. 1144 (M.D.La. 1973), *aff'd*, 416 U.S. 922 (1974); *United Dairy Farmers Coop. Ass'n v. Milk Control Comm'n*, 335 F.Supp. 1008 (M.D.Pa. 1971), *aff'd*, 404 U.S. 930 (1971); *Medo-Bel Creamery, Inc. v. Oregon*, 673 P.2d 537 (Or.Ct.App. 1983).

⁹⁴ Multiple courts have distinguished or declined to extend the rationale of *West Lynn*. See, e.g. *WLR Foods, Inc. v. Tyson Foods, Inc.*, 861 F.Supp. 1277, 1282 (W.D.Va. 1994) (In denying a preliminary injunction in a case involving the question of whether Virginia's non-integrated statutory scheme affecting hostile

dormant Commerce Clause. By imposing an assessment on milk sold by all dealers to Massachusetts retailers (regardless of whether the milk was produced in Massachusetts or another state) and distributing the proceeds of the assessment to Massachusetts dairy farmers, the Court found the order to unconstitutionally discriminate against interstate commerce. A state law may not be designed “benefit local producers of goods by creating tariff-like barriers that [neutralize] the competitive and economic advantages possessed by lower cost out-of-state producers.”⁹⁵ The court dismissed the argument that the assessment’s incidental burden on interstate commerce is justified by the local benefit of saving the dairy industry — stating that the “[p]reservation of local industry by protecting it from the rigors of interstate competition is the hallmark of the economic protectionism that the Commerce Clause prohibits.”⁹⁶

Although not as instructive as the two cases above, it is worth mentioning *Cloverland-Green Spring Dairies, Inc., et. al. v. Pennsylvania Milk Marketing Board, et. al.*, a 2006 case in which the U.S. Court of Appeals for the Third Circuit affirmed a district court decision upholding Pennsylvania’s state minimum wholesale milk pricing against a dormant Commerce Clause challenge.⁹⁷ Cloverland had alleged that the minimum wholesale price requirement of Pennsylvania’s milk pricing system discriminated against interstate commerce by eliminating competition based on price. In considering whether Pennsylvania’s law violated the dormant Commerce Clause, the court considered whether “heightened scrutiny” applied and whether the law was invalid under the Pike balancing test.⁹⁸

The court explained that “[h]eightedened scrutiny applies when a law ‘discriminates against interstate commerce’ in its purpose or effect.”⁹⁹ A law can discriminate in this way by adversely impacting the competitive advantage of production in another state or disadvantaging out-of-state businesses while benefiting in-state businesses.¹⁰⁰ The court found that heightened scrutiny did not apply in this case because Cloverland’s

takeover attempts is constitutional, the memorandum opinion distinguished West Lynn’s integrated statutory scheme and expressed “the problems of extending West Lynn Creamery beyond an integrated statutory program.”)

⁹⁵ *West Lynn Creamery*, 512 U.S. 186.

⁹⁶ *Id.* at 187.

⁹⁷ *Cloverland-Green Spring Dairies, Inc. et. al. v. Pennsylvania Milk Marketing Board, et. al.*, 462 F.3d 249 (3d Cir. 2006). This case was the second time the matter was appealed to the U.S. Court of Appeals. The previous appeal in 2002 resulted in the U.S. Court of Appeals remanding the case to the District Court for trial after finding the District Court improperly granted summary judgment to the Pennsylvania Milk Marketing Board since a “reasonable trier of fact could find (on the facts presented) that Pennsylvania’s minimum wholesale milk prices were unconstitutional.”

⁹⁸ *Id.* at 261, citing *Cloverland I*, 298 F.3d at 210–11.

⁹⁹ *Id.* at 261, citing *C & A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383 (1994); *Harvey & Harvey, Inc. v. County of Chester*, 68 F.3d 788, 797–98 (3d Cir. 1995).

¹⁰⁰ *Id.* at 261–262.

allegations amounted to only subtle competitive advantages to in-state handlers and did not sufficiently link any advantages to in-state or out-of-state status.¹⁰¹

Next, the court applied the Pike balancing test: “[W]hen a law ‘effectuate[s] a legitimate local public interest, and its effects on interstate commerce are only incidental,’ the court must determine whether ‘the burden imposed on such commerce is clearly excessive in relation to the putative local benefits.’”¹⁰² The court found there was enough evidence in the district court record to support its conclusion that the putative incidental burdens of Pennsylvania’s minimum wholesale milk prices on interstate commerce do not outweigh its putative benefits.¹⁰³ However, the court ended its decision with a cautionary note, explaining that “Cloverland lost this case because its evidence was insufficient, but the constitutionality of Pennsylvania’s minimum wholesale prices remains unresolved.”¹⁰⁴

4. Practical implications of state order pricing

In considering a state milk marketing order, a state must consider whether and how the benefits of guaranteed minimum prices to producers, processors, wholesalers, and/or retailers balance against the increased costs for processors, wholesalers, retailers, and/or consumers. In particular, it would be important for the Legislature to examine (1) whether and how much more a processor would pay for Vermont milk before it chose to source milk from out of state and (2) how much retail prices would increase (and the impact this would have on Vermont consumers, particularly those who are members of vulnerable and disadvantaged populations. To answer these questions, the Legislature should consider undertaking a detailed cost-benefit analysis in coordination with an organization that has access to detailed market data. Such an analysis should take into account whether there is a premium brand value to Vermont milk (and whether that value would increase if the State were to choose to support farmers in increasing their milk quality and management practices as outlined in Section III(F)).

The state orders in Maine, Pennsylvania, and other states price only fluid milk at a premium. Because cheese, butter, and milk powder are less perishable than milk, the markets for these products are national. According to the PMBB, Pennsylvania does not set premiums for these products because “[i]n a national market there are many more opportunities to acquire milk at low prices... Mandating a premium inside Pennsylvania for non-Class I milk could make that milk and the products manufactured from it non-

¹⁰¹ “In demonstrating that heightened scrutiny should apply to a state law, a plaintiff like Cloverland need only prove that its out-of-state residency confers competitive advantages that are neutralized by the state law under review, thus preventing competition in the area in which the plaintiff enjoys an advantage.” *Id* at 267.

¹⁰² *Id* at 270-271.

¹⁰³ *Id* at 271.

¹⁰⁴ *Id* at 272-273.

competitive in that highly competitive national market.”¹⁰⁵ Since Vermont processes very little fluid milk, but a significant amount of cheese and other products, a cost-benefit study should analyze whether Vermont could or should institute a premium on additional classes of dairy products.

Finally, in Vermont, unlike Maine, the major milk processors are owned by dairy cooperatives and, therefore, by milk producers. For this reason, it may be counterintuitive for Vermont to follow suit with Maine by assessing a milk handling fee on processors that is intended to benefit producers.

5. Conclusion—A state pricing order could likely be structured to withstand legal challenges, but would require additional cost-benefit analysis

Regardless of how states price milk, farms are exiting the market; the dairy industry challenges are national in scope. It is unclear to the Department whether a state pricing order would serve to bolster the sustainability of milk pricing or dairy farming in Vermont. Maine’s tier system, lauded by some and maligned by others, provides important price supports to the state’s dairy producers, but at a high cost to taxpayers. Although the Department concludes that state milk pricing regulation could likely be implemented in Vermont in a manner that would withstand Constitutional challenges, we do not take a position as to whether the Legislature should undertake this option. Rather, we believe that dairy industry stakeholders and experts are best situated to determine whether a state order system would benefit Vermont’s dairy industry.

C. Regional compact

Another option for Vermont is to (again) enter into an interstate agreement to establish a regional pricing mechanism to supplement FMMO minimum pricing. The Northeast Dairy Compact, of which Vermont was part, was relatively successful in stabilizing dairy prices for farmers without unduly burdening consumers. Establishing a new regional compact would require the agreement of all participating states, as well as the approval of Congress (required pursuant to the compact clause of the U.S. Constitution).¹⁰⁶ For this and other reasons set forth below, although forming a regional compact at this time may have similar benefits to the previous one, it is not likely to be feasible or politically viable.

In 1996, six New England states—Vermont, New Hampshire, Maine, Connecticut, Rhode Island, and Massachusetts—formed the Northeast Dairy Compact. Each state adopted

¹⁰⁵ PMBB Overview, *supra* note 73.

¹⁰⁶ “No State shall, without the Consent of Congress... enter into any Agreement or Compact with another State.” U.S. Const. art. 1, § 10, cl. 3.

uniform legislation and obtained approval from Congress in the 1996 Farm Bill.¹⁰⁷ Congress conditioned its approval on a finding by the U.S. Secretary of Agriculture that there was a “compelling public interest in the Compact region.”¹⁰⁸ Congress established a sunset date for the Compact that would coincide with reforms to the FMMO and the sunset was subsequently extended to September 2001, at which point Congress allowed its approval to expire.

During the life of the Compact, a commission of state-appointed producers, processors, retailers, and consumer representatives established the minimum price at which all processors that sold fluid milk in the six New England states must purchase that milk from producers. The minimum Compact price was higher than the price established by the FMMO for the region and thus a type of over-order pricing.¹⁰⁹ While the sourcing dairy farms were largely in the six compact states, some were outside the area, notably in New York. The Compact’s constitutionality was upheld by federal courts early in its life and not seriously called into question after 2001.¹¹⁰

Some critics of the Compact complained that it resulted in an unfairly high and inflexible milk price. However, the Compact did effectively enhance revenue for Northeast dairy farmers. According to AAFM, the Compact was successful in bolstering the prices received by dairy farmers in Vermont and increasing their individual financial sustainability, and did so without undue burdens on consumers.¹¹¹ One of the key reasons for the Compact’s success was the involvement of both high milk-producing states and high population states; the matching of supply with demand.¹¹²

The success for the states involved may have been one of the reasons that Congress failed to re-authorize it; key legislators in other states, notably major dairy-producing

¹⁰⁷ Individual state adoption took place between 1989 and 1993. Northeast Dairy Compact Commission. Compact Facts. <http://www.dairycompact.org/comfacts.htm>

¹⁰⁸ Pub. L. No. 104-127, 110 Stat 888, § 147 (codified in 7 U.S.C. § 7256).

¹⁰⁹ Northeast Dairy Compact Commission. Compact Over-Order Price Regulation, 62 Fed. Reg. 104 (May 30, 1997), <https://www.govinfo.gov/content/pkg/FR-1997-05-30/pdf/97-14274.pdf>

¹¹⁰ See *New York State Dairy Foods, Inc. v. Northeast Dairy Compact Comm’n*, 198 F.3d 1 (1st Cir. 1999), *cert. denied*, 529 U.S. 1098 (rejecting arguments that the Commission’s pricing scheme violated the dormant commerce clause and that the Commission’s composition and hearing panels violated the due process rights of a New York-based trade association). Other legal challenges to the Commission’s structure and actions also failed. See *Milk Indus. Found. v. Glickman*, 132 F.3d 1467 (D.C.Cir. 1998); *Organic Cow, LLC v. Ne. Dairy Compact Comm’n*, 164 F.Supp.2d 412 (D.Vt 2001).

¹¹¹ Although some opponents of the Compact argue it inflated fluid milk prices for consumers, the information available to AAFM indicates that increases attributable to the Compact were cents on the gallon and, thus, that concerns about consumer harm were unsubstantiated. Call with Diane Bothfeld, December 21, 2020.

¹¹² *Id.*

midwestern states, and a variety of other stakeholders with competing interests to the Compact's, voiced strong opposition, some referring to the Compact as a "cartel."¹¹³

It is unclear whether a similar agreement would be politically viable today or whether it would work under the conditions of today's consolidated dairy industry to keep smaller and medium-sized conventional dairy operations in business in Vermont. In its January 2020 dairy sector report, the Maine Farmland Trust voiced support for "a regional pricing system, using variables that are more sensitive to regional production costs and market signals," which could provide dairy farmers "with a more stable and predictable environment for future business planning, and serve as an effective tool for achieving regional dairy viability."¹¹⁴

The political viability of an interstate compact depends partially on whether there is appetite at the federal level to approve a regional agreement that is aimed at benefiting only the participating states. Among stakeholders that would likely oppose a regional compact are processors, wholesalers, and retailers (including regional and national supermarket chains), which have become increasingly consolidated in the years since the Compact's original approval in 1996. Some believe the need for a compact is diminished now since the Vermont market has changed. Vermont now processes a majority of the milk it produces in state, making a compact less essential for Vermont producers.

To increase the potential for success of a regional compact in supporting individual farmers, it may be necessary to include nearby high-milk-producing states, such as Pennsylvania and New York, that were not participants in the original compact. Without the involvement of such states, milk processors and other direct buyers of Vermont's milk may opt to purchase milk from farms in neighboring states to avoid the premium price associated with compact-state milk. Additional considerations related to a regional compact include the long timeframe necessary to obtain individual state approval before seeking federal approval and the potential impermanence of such a solution, which requires periodic Congressional re-approval. Finally, Vermont's appetite to battle dairy states excluded from the compact and opposing stakeholders are factors to consider. The Department takes no view as to whether Vermont should pursue this option.

¹¹³ It is not clear to the Department why the Compact was not re-authorized. The original condition that it would expire upon further federal reforms may have played a part, as may have the expiration's date falling at the same time that the country was experiencing the aftermath of 9/11. Further research would be necessary to understand the reasons behind the initial Congressional authorization as well as the subsequent lack of re-authorization.

¹¹⁴ Maine Farmland Trust. State of Maine Agriculture Report Series: Dairy Sector Report. January 2020. <https://www.maineFarmlandtrust.org/wp-content/uploads/2020/01/Dairy-Sector-Report.pdf>

D. Supply management

In short, supplies of milk in the U.S. exceed consumer demand, which depresses producer prices; in 2020 the COVID-19 pandemic exacerbated this imbalance. Many experts believe that dairy supply management is the solution. A variety of supply management programs exist today, with a range of scales, attributes, and time frames. Canada has managed its national dairy supply since the early 1970's with production quotas, import restrictions, and price supports; and the state of Montana has operated under a state-wide dairy supply management system since 1990. On a smaller scale, oversupplies of fluid milk brought about by the Great Recession and the COVID-19 crisis have led co-ops to establish programs to temporarily manage members' milk production. Supply management strategies are also recommended by the Vermont supply management working group and championed by Dairy Together, a growing movement of farmers whose goal is to rebuild a viable dairy economy.

Nationwide dairy supply management has been attempted before, with limited success. In 1983, Congress enacted a milk diversion program "to address excessive dairy product purchases and the costs associated with maintaining the dairy price support program." Under this program, which was in effect from January 1984 to March 1985, the federal government paid farmers \$10 per hundredweight of production under their established base level. The program was funded through an assessment on all milk produced. Approximately 38,000 producers participated and were paid a total of \$955 million. According to the GAO, the program successfully reduced total milk production by 3.74 to 4.11 billion pounds in 1984, but encountered adverse selection and moral hazard issues. "GAO survey results revealed that the program's likely participants had already reduced milk production below their base levels. Nonparticipants were those dairy farmers who were actively expanding sales." The American Farm Bureau Federation states that the program ultimately had "no measurable impact on the national average milk price or the trend in milk production."¹¹⁵

The pros and cons of supply management are as many and varied as the systems in place. In this section, the Department evaluates a number of supply-management programs and proposals, and considers how they might impact Vermont producers, processors, retailers, and consumers.

1. Cooperatives' temporary supply management programs

Both Agri-Mark and DFA put into place base-excess programs to manage supply in 2020. Under a base-excess program, a co-op pays full price for a farmer's specified base amount of milk and a lesser price for milk produced in excess of the base. Agri-Mark instituted

¹¹⁵ American Farm Bureau Federation. Reviewing U.S. Dairy Supply Management Efforts. April 15, 2019. <https://www.fb.org/market-intel/reviewing-u.s.-dairy-supply-management-efforts>

its program on January 1, 2020, based on the difficult market conditions that existed prior to the pandemic, and DFA instituted a similar program in May of 2020 as a result of market changes brought about by COVID-19. Under the Agri-Mark program, members were given a choice to base their maximum production levels on either their March 2019 or March 2020 production volumes. Over-base production is assessed a penalty determined monthly “based on [Agri-Mark’s] forecast of blend prices in the upcoming month, less \$1.50 (rounded to the nearest 10 cents).”¹¹⁶ Under the DFA program, Northeast members are paid full price for 85 percent of their March 2020 base production and “the value that can be derived from the marketplace” for the remaining 15 percent.¹¹⁷ The reason both cooperatives cite for their programs is to prevent or remedy an oversupply of milk.

Organic cooperatives have long used supply management strategies. Although organic milk may be more profitable for farmers to produce, it has a more limited consumer base than conventional milk. For those reasons it is important for processors to balance supply and demand. Organic Valley attributes its financial success to a growth in sales and “conservative supply management in more difficult years.”¹¹⁸ Organic Valley limits both the number of farms it accepts into the co-op and the milk production of its members. It uses regional pools, each of which contracts with members on price and volume. In 2009, in response to the Great Recession and decreased demand for organic milk, Organic Valley instituted a quota program, requiring members to temporarily cut their production by seven percent. Base price remained unchanged, but the price for over-base milk was significantly reduced. The program appears to have been successful—it allowed Organic Valley to maintain adequate prices for their farmers and also resulted in increased utilization, reduced inventory, and increased milk quality.¹¹⁹ The successful use of supply management strategies by organic co-ops is “encouraging when we talk about supply management on a larger scale.”¹²⁰

2. Vermont supply management working group’s growth management proposal

In 2018, VAAFMM convened a supply management working group at the direction of the Vermont Legislature. In addition to VAAFMM, the group included representatives of Agri-Mark and DFA, and the chairs of the Vermont Senate and House agricultural committees.

¹¹⁶ Email from Catherine DeRonde, January 8, 2021.

¹¹⁷ Email from Kiersten Bourgeois, January 7, 2021.

¹¹⁸ Organic Valley. “Organic Valley Farmer-Owners Convene at Co-op’s Annual Meeting to Celebrate 2015 Milestones and Strategize for Future Generations.” April 7, 2016.

<https://www.organicvalley.coop/newspress/organic-valley-farmer-owners-convene-co-ops-annual-meeting-celebrate-2015-milestones-and-strategize-future-generations/>

¹¹⁹ Ye Su and Michael L. Cook. Price Sustainability and Stability – An Achievable Goal? A Case Study of Organic Valley. July 2014. <https://ageconsearch.umn.edu/record/174399/?ln=en>

¹²⁰ Call with Julie-Marie Bickford, January 8, 2021.

The working group held meetings, took testimony, and heard presentations from dairy farmers, government officials, milk processors, academics, and many other stakeholders before issuing a report in 2019. The report addressed the challenges faced by the Vermont dairy industry and concluded that the current system of dairy regulation is problematic. The working group endorsed a two-tier growth management system, administered by the USDA Farm Services Agency, to equalize the supply and demand of milk and stabilize milk volumes and prices.¹²¹

The working group's proposal is a type of base-excess program designed to manage growth to meet domestic and export needs, plus ensure a 30-day emergency stock of dairy. A farm's base (tier one) would be set based on the highest of the farm's annual production volumes over the previous three years and would be reviewed and adjusted every six months, as needed to meet national needs. The working group suggested tying the over-base (tier-two) price to the USDA announced All Milk Price, a price that is low enough to provide a strong disincentive for farms to overproduce. Milk volumes would be reviewed, and required deductions made from each farmer's milk check, on a quarterly basis. Deducted funds would be pooled and redistributed at the end of each calendar year to farms that remained at or below their annual base. The working group strongly recommended against permitting the transfer or sale of base volumes.¹²²

The supply management working group noted that, to be successful, a supply management program must be implemented at the national level and participation of all producers must be mandatory. According to the working group: "To manage the growth of the United States milk supply to better align the volume of milk with demand, all dairy producers [would] need to be actively involved in the program. An equitable program must be established for all dairy producers regardless of farm location, farm size and/or business structure. The alignment of milk volume with need would reduce volatility and provide stabilization of milk prices," hence benefitting Vermont milk producers. The working group also acknowledged the potential downside of a national supply management system—increased retail prices—which may disproportionately impact lower-income Vermonters.¹²³

3. Dairy Together's market access fee proposal

Dairy Together, an initiative of the Wisconsin Farmers' Union, is a movement of farmers pushing for federal dairy policy changes, including a national supply management program. The group has proposed a market access fee program to align supply and demand. This program would set annual production growth limits but allow a farm to pay a market access fee per hundredweight if it chose to expand its production growth

¹²¹ 2019 Milk Commission Report, *supra* note 3.

¹²² *Id.*

¹²³ *Id.*

above allowable limits. The market access fees paid by these farms would then be distributed among farms that chose to limit their production. This program could be continuous or it could be triggered when the margin between milk and feed prices is low.¹²⁴

A study of the market impacts of this program—had it been implemented in the 2014 Farm Bill—shows that it would have reduced price variability, slowed farm exits, increased net farm operating incomes, and reduced government expenditures on the DMC program. According to the study’s authors, the program would have increased the average producer price by \$1.10 per hundredweight for *all* farms and by more than \$2.50 per hundredweight for farms that limited growth.¹²⁵ The authors acknowledge that the market access fee program would result in a slight decrease in domestic consumption of dairy due to increased prices.¹²⁶

4. Montana’s statewide quota system

Montana is the only U.S. state that is 100 percent supply managed. Established in 1990, Montana’s quota system is designed both to limit the supply of Class I fluid milk on the market and stabilize prices above farms’ costs of production. The system has been described as “pay to play” —only farmers with quotas own the right to produce fluid milk in Montana—and many experts say that, in its current state, it is failing to meet its goals.¹²⁷

Montana sets a state minimum producer price for Class I fluid milk produced in-state, which is based on the FMMO plus a location differential (\$2.55 per hundredweight in 2018).¹²⁸ All milk in Montana is pooled and component values are derived from the total amount. Each farmer is paid a blend price, adjusted for individual butterfat content, for milk produced up to their quota, and \$1.50 less per hundredweight for over-quota milk.¹²⁹

When the quota program was established, Montana set each farmer’s quota pounds as a percentage of their previous year’s production. Total quota pounds for the state were based on Class I utilization in 1990 and have not changed substantially since then. There

¹²⁴ Dairy Together. Market Impacts of Various Supply Management Programs (video).

<https://www.dairytogether.com/videos>

¹²⁵ “Congressional hearing on dairy economics: Briefings were spearheaded by Wisconsin Farmers Union through Dairy Together.” Morning Ag Clips. September 17, 2019.

<https://www.morningagclips.com/congressional-hearing-on-dairy-economics/>

¹²⁶ Market Impacts of Various Supply Management Programs (video), *supra* note 124.

¹²⁷ Laura Ginsburg. “Pay to play: Supply management in Montana’s dairy industry, Part 1.” *Progressive Dairy*. August 30, 2013. <https://www.progressivedairy.com/news/industry-news/pay-to-play-supply-management-in-montanas-dairy-industry-part-1>

¹²⁸ Dairy Technomics. Montana Milk Market Regulation Study: Final Report. June 4, 2018.

http://liv.mt.gov/Portals/146/MC/Montana_Milk_Market_Regulation_Study_Final_Report_2018-06-04.pdf?ver=2018-06-27-095606-510.

¹²⁹ Call with Laura Ginsburg, January 5, 2020.

are a set number of quotas available, which may be bought or sold among farms. The limited number of quotas means that the level of milk production in Montana has remained relatively stable over the past 30 years¹³⁰ and exceeds what is needed for in-state utilization, resulting in downward pressure on prices.

Montana's farms produce approximately 85 percent of the fluid milk sold in the state. Almost 40 percent of milk produced in Montana is sold out of state "at greatly discounted prices that, along with other factors and adjustments including high transport costs, lower the average price of milk that [p]roducers receive." Despite its high state minimum producer price for fluid milk, the net price paid to Montana's dairy farmers "ranks at or near the bottom regionally, as well as nationally."¹³¹

Critics of Montana's quota system say that its \$1.50 per hundredweight penalty is not severe enough to prevent farmers from overproducing. In addition, because only Class I fluid milk is supply-managed, if markets invert (such as happened recently) and Class III prices are higher than fluid milk prices, then farmers are also incentivized to overproduce.¹³² Some also believe that a state-based supply management system disadvantages individual farms. Under the FMMO and some state pricing systems, farmers can manage volumes to take advantage of efficiencies or components to earn premiums for their milk quality. If a farmer is under a volume restriction, however, they lose those abilities, putting them at a disadvantage compared to farmers in neighboring states who are not subject to supply management.¹³³

To date, Montana's system appears neither to have balanced milk supply and demand in the state, nor resulted in sustainable prices for the state's dairy farmers. Many experts who are in favor of supply management think that, to be successful, such a system must be instituted at the national level.

5. Canada's nationwide supply management system

The Canadian government uses a nationwide system of supply management to ensure price stability in the Canadian dairy market. The system was instituted after technological advances in the 1960's led to overproduction and low prices for many agricultural products. It has three main features: supply regulation through quotas; minimum price regulation; and import control.

Canada's national milk production limits are based on the amount of dairy each province is expected to consume for a particular period. Provincial authorities issue production

¹³⁰ USDA Dairy Data, *supra* note 21.

¹³¹ *Id.*

¹³² Call with Laura Ginsburg, January 5, 2020.

¹³³ Call with Catherine DeRonde, January 4, 2020.

quotas to a limited number of dairy farms in each province. If a farm produces over its quota, a penalty is assessed. Farmers sit on each province's marketing board and negotiate a minimum milk price with dairy processors that reflects the farmers' costs of milk production (plus profit), as well as the estimated consumer demand for dairy products. The Canadian government also strictly controls agricultural imports through the imposition of high tariffs. This prevents cheaper international products from flooding the Canadian market and undercutting the price of domestic dairy products.

Supporters of Canada's quota system say it promotes more stable and predictable dairy pricing for both producers and consumers by limiting large fluctuations in the market supply of dairy, and negotiated minimum prices result in stable, sufficient income for dairy farmers. Although the Department was unable to locate official or more recent statistics, a Canadian national publication stated that, in 2016, the average Canadian dairy producer milked 85 cows and had net operating income of U.S. \$126,000.¹³⁴

Critics of the Canadian system say that consumers bear the costs of the system and retail prices, which are necessarily higher than the prices that would be set in a competitive market, disproportionately impact lower-income consumers. Others contend that Americans also finance U.S. dairy supports, albeit in a different manner: "The United States... has largely maintained support for the farming sector through subsidies. So Americans foot the bill for farm supports indirectly, through the taxes they pay, while Canadians pay for those supports directly, through higher prices for supply-managed products."¹³⁵ Still others argue that Canada's high minimum producer prices reduce the incentive for Canadian dairy farmers to take advantage of efficiencies and innovations to manage their costs of production.¹³⁶

The Canadian system of dairy price regulation reflects a very different political climate than exists in the United States. Although it has clear benefits to producers, it is unlikely that a Canadian-style quota system in the U.S. will be the solution to Vermont's dairy crisis.

6. Conclusion—supply management could benefit Vermont's dairy farmers, requires federal action

Managing supply at the national level would likely help stabilize prices for Vermont's dairy producers. Unfortunately, however, it may also increase costs for the State's

¹³⁴ Kyle Edwards. "The Truth about Dairy Farming in Canada." *Maclean's*. October 4, 2018. <https://www.macleans.ca/economy/the-truth-about-dairy-farming-in-canada/>. Figure was converted to U.S. dollars based on the December 31, 2016 spot inter-bank exchange rate.

¹³⁵ John Paul Tasker. "How Canada's supply management system works." CBC News. Jun 16, 2018. <https://www.cbc.ca/news/politics/canada-supply-management-explainer-1.4708341>

¹³⁶ Maurice Doyon. Canada's Dairy Supply Management: Comprehensive Review and Outlook for the Future. October 2011. <https://www.cirano.qc.ca/files/publications/2011DT-01.pdf>

processors, retailers, and/or consumers. Critics of any supply management program may argue in favor of allowing the market to stabilize supply and demand. They may also criticize such a program because it may raise prices and negatively impact the country's export capabilities.

The strategies proposed by Vermont supply management working group and Dairy Together appear promising, but are not likely to gain sufficient traction in Congress. The Vermont supply management working group shared their proposal with Vermont's Congressional delegation in 2019. If they chose to do so, Vermont's dairy stakeholders, administration, and/or Legislature could further signal their support for a national supply management program and engage other New England states in discussions of a national program. However, the decision to implement such a program depends on political factors largely out of Vermont's control.

E. Increased focus on organic

In light of the changing dairy landscape, organic dairy farming may provide an opportunity for many of Vermont's dairy farms to remain economically viable. Evidence suggests organic dairy production may be more profitable than conventional dairy production and may have positive impacts on animal and human health and the environment (including water quality, which is a source of contention within the dairy arena). In addition, consumer demand for organic dairy is increasing.¹³⁷ A 2013 study in the *Journal of Dairy Science* concluded that "organic dairy farms may contribute more to the local economy than average and similar-size conventional dairy farms in the Northeast... and that organic dairy farm milk production supports economic development in rural communities."¹³⁸ For these reasons, it may be prudent for Vermont to focus additional efforts on encouraging farmers to transition to organic production as an alternative to conventional commodity dairy farming.

Organic milk is more expensive to produce than conventional, in part because of the higher cost of organic feed, and the retail price is substantially higher. Organic dairy farming involves restrictions on the use of chemical fertilizers and pesticides in feed and on antibiotics, feed additives, and growth hormones for cows. As such, organic farms are subject to more extensive regulatory requirements, which may increase administrative cost and burden. To gain organic certification through the USDA's National Organic Program, among other things, a farm must provide their milking cows access to pasture

¹³⁷ Amanda Gokee. "Demand for organic milk has gone up during the pandemic." *VT Digger*. December 27, 2020.

<https://vtdigger.org/2020/12/27/demand-for-organic-milk-has-gone-up-during-the-pandemic/>

¹³⁸ J.K. O'Hara and R.L. Parsons. The economic value of organic dairy farms in Vermont and Minnesota. *Journal of Dairy Science*. September 2013.

<https://www.sciencedirect.com/science/article/pii/S0022030213004943>

for at least 120 days per year and ensure they obtain at least 30 percent of their dry matter intake by grazing.¹³⁹

Organic milk producer prices are also much higher than those for conventional milk. In most cases, the higher price more than offsets the higher costs of organic production, making organic dairy farming in Vermont a reasonably profitable enterprise in contrast to conventional dairy.¹⁴⁰ However, as discussed in Section III(D)(1), higher organic prices are supported, in large part, by production limits imposed by organic handlers. It may not be feasible or advantageous for a large number of Vermont producers to transition to organic methods at once and overwhelm the market.

The number of organic dairy farms in Vermont increased until 2016, but since then has declined. The demand for organic dairy also steadily increased prior to 2017, leading many conventional farms to transition to organic to take advantage of higher returns. This sudden influx of milk from newly converted organic farms contributed to a global oversupply of organic milk that caused prices to decrease dramatically in 2017. However, with the pandemic causing many people to stay home, 2020 demand for organic dairy in grocery stores has gone up.¹⁴¹

Large retailers like Costco and Walmart process and distribute organic dairy under private labels, with milk often supplied by organic “megadairies” in the West. Since interpretations of national organic certifications vary by certifier, the organic milk sourced by Walmart may not meet strict Vermont Organic Farmers (VOF) requirements. For example, a 5000+ cow organic dairy in California may be permitted to raise cows conventionally at a lower cost before transitioning them to organic practices just before they begin to be milked; this would not be permitted by VOF, which permits only whole-herd transition.¹⁴²

With its strict organic standards, small farms, beautiful landscape, and award-winning dairy products, it may be possible for Vermont to take greater advantage of its position as a niche market for high quality, locally-sourced organic dairy products and to brand itself as such, while at the same time enhancing farmer profitability and reaping the other effects of organic production. However, additional research and cost-benefit analysis would be required to determine whether and how to best support farmers in transitioning to organic methods.

¹³⁹ Lee Rinehart and Ann Baier. Pasture for Organic Ruminant Livestock: Understanding and Implementing the National Organic Program (NOP) Pasture Rule. May 2011.

<https://www.ams.usda.gov/sites/default/files/media/NOP-UnderstandingOrganicPastureRule.pdf>

¹⁴⁰ Jen Miller. Organic Dairy Farm Cost-of-Production Study in Vermont: 2017 Analysis. NOFA VT.

<https://nodpa.com/n/875/Organic-Dairy-Farm-Cost-of-Production-Study-in-Vermont-2017-Analysis>

¹⁴¹ Gokee, *supra* note 137.

¹⁴² Kyla Bedard. The state of dairy in Vermont. NOFA VT. July 1, 2018. <https://nofavt.org/blog/state-dairy-vermont>

F. Increased support for innovation and farm management

Increasing the price paid to dairy farmers for their milk is one solution to the dairy crisis, but another, more immediate approach may be for Vermont to better support farmers in improving their farm management practices, incorporating innovative long-term solutions to reduce costs, and selling or marketing their products into higher value production channels.¹⁴³ Not only may these supports help Vermont farmers economically, but some may also help mitigate the environmental impacts of dairy farming or decrease costs to the State.

For instance, the state could provide educational and financial support for the installation of on-farm technologies, such as anaerobic digesters. Anaerobic digesters could provide farmers a solution for manure management while also benefiting their greater communities and the environment as a whole. The closed loop systems turn manure and other waste products, such as food scraps, into renewable energy, liquid manure for fertilizer, and solid manure for composting and cow bedding. These byproducts may be sold by farmers to generate income and the process may also reduce greenhouse gas emissions and reduce odors. However, the upfront costs for individual on-farm digesters are high and larger anaerobic digesters may ultimately not be cost-effective under current conditions in Vermont. Vermont Technical College's large-scale demonstration digester faced operating losses and ultimately shut down in 2019.¹⁴⁴ Agricultural innovations that require large capital investments may be cost-prohibitive for many farmers and the State.

The State could support the adoption of on-farm improvements aimed at helping farmers utilize lower-cost, lower-input production methods, such as regenerative dairy farming, which involves the use of techniques such as rotational grazing and the planting of companion crops to enhance soil quality. Such strategies may be inexpensive for farmers to adopt and may improve their bottom lines. For instance, according to the USDA, "grazing-based dairies often boost income by reducing feed, labor, equipment, and fuel costs."¹⁴⁵ The Northeast Dairy Business Innovation Center (NDBIC) "has identified grass-based dairy farming as a significant market opportunity for farmers in the region."¹⁴⁶ Grass-fed dairy is the fastest growing sector of the dairy industry; and cows grazing on a beautiful Vermont hillside can have the intangible benefit of increasing the public

¹⁴³ Call with Laura Ginsburg, January 5, 2020.

¹⁴⁴ Dyland Kelley. "VTC to Halt Digester Operations." *The Herald*. September 26, 2019. <https://www.ourherald.com/articles/vtc-to-halt-digester-operations/>

¹⁴⁵ USDA Natural Resources Conservation Service. Profitable Grazing-Based Dairy Systems. May 2007. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044245.pdf

¹⁴⁶ Currently, the NDBIC supports farmers with technical and monetary assistance as they transition to intensive, rotational grazing. AAFM. Grazing Practices. <https://agriculture.vermont.gov/dbic/grazing>

perception of the benefits of dairy farming.¹⁴⁷ The authors of the 2020 Vermont Dairy Marketing Assessment also recommend State support of dairy farm transitions to grass-fed, as well as organic milk production and funding for related educational programs.¹⁴⁸

The Legislature may also consider prioritizing funding for educating and supporting producers in other areas of farm management, including farm hygiene, milk quality management, and technical and financial planning. For instance, dairy farmers can increase the price they receive for milk by increasing its quality. Higher component values such as butterfat and protein generally result in higher prices, and lower somatic cell count (SCC, which determines the presence of infection) and lower PI count (which measures psychrotrophic bacteria) may also help farmers earn premiums.

The University of Vermont Extension offers courses on topics such as breeding, animal care, herd management, and milking strategy. The Vermont Housing and Conservation Board (VHCB) offers business advising through its Vermont Farm & Forest Viability Program, the mission of which “is to enhance the economic viability of Vermont farms and forestry enterprises... by offering business advising to eligible farmers...”¹⁴⁹ The Legislature may consider prioritizing funding for education through the UVM Extension and business advising through the VHCB, with the goal of helping farmers become better managers. The authors of a recent study of organic dairy farm profitability in Vermont suggest that “increased funding for extension education in pasture and feeding management may help to improve the farm management factors shown to have a strong influence on farm profitability.”¹⁵⁰ Business advice costs little to provide but could go far in helping small farmers better manage their costs.

In addition, in a number of conversations the Department had with stakeholders and literature we reviewed, the high cost of transporting fluid milk was mentioned as an impediment to profitability. Vermont law requires a farm’s milk to be picked up every 48 hours, but in many cases it is being collected every day because of insufficient milk storage. According to the VAAF, Vermont producers may benefit from larger bulk

¹⁴⁷ The environmental impacts are also an important part of the equation. According to the USDA: “Well-managed grazing-based dairies help protect soil, water, air, plant, and animal resources by maintaining dense vegetative cover on the soil, increasing soil organic matter, improving the distribution of nutrients on fields, and reducing the potential for odors, spills, or runoff from concentrated animal waste storage areas. Compared with traditional confinement dairies, grazing-based dairies harbor more wildlife, more diverse plant communities, and healthier cows with longer productive lives.” Profitable Grazing-Based Dairy Systems, *supra* note 145.

¹⁴⁸ Vermont Dairy Marketing Assessment, *supra* note 5.

¹⁴⁹ Vermont Farm and Forest Viability Program. Vermont Housing and Conservation Board. <https://www.vhcb.org/viability>

¹⁵⁰ Jonathan Walsh, et. al. What Makes an Organic Dairy Farm Profitable in the United States? Evidence from 10 Years of Farm Level Data in Vermont. *Agriculture*. January 14, 2020. <https://www.mdpi.com/2077-0472/10/1/17/htm>

tanks and more efficient plate cooling systems, which would reduce the frequency of milk collection.¹⁵¹ Not only would this lower farms' transportation costs, but it would reduce tanker traffic on Vermont roads and reduce environmental impacts. According to Efficiency Vermont, "the benefits of energy-efficient lighting, ventilation, and milking technology include improvements in production, milk quality, cow health, and barn longevity. In addition, the cost savings help free up cash that can be reinvested on the farm."¹⁵² Efficiency Vermont offers rebates for heat recovery units, plate coolers, and ventilation fans. The Department recommends modeling the impacts of such technologies on costs; ultimately, the Legislature could consider ways to support or encourage dairy farms to invest in energy-efficient technologies that would save money, lessen environmental impact, and potentially even save the State money on infrastructure improvements.

Another area where the Legislature could focus is on ways to increase sales of Vermont-made dairy. The authors of the 2020 Vermont Dairy Marketing Assessment proposed a strategy to help brands leverage their Vermont identities by creating a brand ambassador program and position within State government. This position would provide market development and professional support, develop relationships with buyers, assist with merchandising, and coordinate Vermont visibility at trade shows. The assessment's authors conclude that "this position would both be more immediately effective than a label-based quality or origin brand, and more responsive and subtle in developing the state's product image."¹⁵³

The NDBIC is also focusing some of their efforts on ways to help Vermont and other New England processors increase their market appeal. One way they are doing this is by researching the feasibility of recyclable milk containers. Similarly, the NDBIC is looking into the possibility of recyclable plastic film for cheese packing.¹⁵⁴ Neither waxed paper milk containers nor plastic cheese wraps are recyclable; relatively low-cost but eco-friendly packaging alternatives could give Vermont brands a market competitive advantage. A recent packaging industry report showed that 74 percent of consumers surveyed said they would pay more for sustainable packaging and 49 percent of U.S. consumers are less likely to buy products in packaging that is harmful to the environment.¹⁵⁵

¹⁵¹ Call with VAAF, January 6, 2021.

¹⁵² Dairy Equipment. Efficiency Vermont. <https://www.encyvermont.com/products-technologies/agricultural-equipment/dairy-equipment>

¹⁵³ Vermont Dairy Marketing Assessment, *supra* note 5.

¹⁵⁴ Call with Laura Ginsburg, January 5, 2020.

¹⁵⁵ Trivium Packaging. 2020 Global Buying Green Report.

<https://triviumpackaging.com/sustainability/2020BuyingGreenReport.pdf>

The ideas explored in this section are not comprehensive solutions to the dairy industry crisis. However, they are, in most cases, relatively easy and inexpensive for the Legislature to implement and may provide significant and long-lasting benefits for producers, processors, their communities, and Vermont consumers.

IV. Summary and conclusion

The task assigned the Department was challenging due to a number of factors, including the complexity of the subject matter, the long and complicated history of milk pricing in the United States, and the unprecedented events that impacted the industry in 2020. The Department agrees with the Legislature's findings that the current situation is very challenging, but we also conclude that there are no easy fixes.

In preparing this report, the Department researched and analyzed a number of systems and programs to revise regulated dairy pricing and other market regulation in the State and improve the viability of Vermont dairy farming. None of the options we explored provides a straightforward or easy solution, and the Department does not consider itself to be in a position to make recommendations as to how to fix the dairy industry's problems. Of the major strategies we explored, efforts to revise FMMO pricing methodology and the national-level dairy growth management strategies backed by the Vermont supply management working group and Dairy Together appear to be worthy of additional analysis but would require action at the federal level. Other actions, including a state-level marketing order, may be somewhat more feasible, but may also be less effective.

Ultimately, dairy experts and stakeholders are in the best position to fully evaluate these and other options in light of overarching policy goals, and to help light the way forward for Vermont's dairy industry. The Department is grateful for the opportunity to assist the Legislature in these efforts and would be happy to engage further to help find solutions to the challenges facing this important industry.