

Determining the Current Cost of Producing Milk in Maine in 2019: Results from the 2019 Cost of Production Study

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**Maine Department of Agriculture, Conservation, and Forestry
and the Maine Milk Commission**

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Introduction

The research goal was to determine the cost of producing fluid milk for conventional dairy farms in Maine that fall into four levels of milk production, or tiers, established by L.D. 1758 in the 124th legislature and defined in Maine Revised Statutes, Title 7, Section 3153-b. For the 2019 study, detailed expense data was collected on economic and production performance data via mail, email, phone and onsite interviews to accurately measure each selected dairy farm's costs of milk production. Because of Covid19, there were on-farm visits, but farm to farm travel was minimized. Farm financial data including farm accounting records and tax forms were carefully evaluated. The main goal of this study was to evaluate the expense side of the milk production business and did not include data collection on the income side.

The Maine Milk Commission is specifically interested in the cost of producing milk in Maine in 2019. In this report, this cost is labelled as the short run breakeven cost of milk production. As has been done in past studies, the cost survey allowed the collection of data on depreciation and estimates of unpaid family labor on Maine dairy farms to augment the financial dynamics present in the Maine dairy industry and the short run break even cost of milk production to provide a broader description of the costs of milk production.

Study Procedure

This study consisted of two parts. The first part of the study was a survey of the conventional dairy farms to determine a broad overview of the demographic make-up of the Maine dairy industry. The second phase of the study was a detailed evaluation of milk production costs on Maine conventional dairy farms. The goal of this phase was to collect more detailed and specific data from forty (40) Maine conventional dairy farms.

Initial surveys were mailed to all conventional Maine dairy farms (excluding farms producing milk for organic markets) that shipped milk to a wholesale market in 2019. Of these 132 farms, producers responded with initial production, herd size, labor, acres in feed crops, use of pasture and cover crops, recordkeeping, numbers of workers, and whether the cattle were milked in a parlor or stanchion/tiestall. Farms were contacted up to three times to complete the survey. The results section details the specific mailings and response to each. Response rate was 79.5% (105 returns). A copy of the brief survey to get a snapshot of the industry is included in appendix 1.

In the second phase of the study, farms were divided into four groups based on yearly production volumes (tiers). Dairy farms in Maine are categorized into four tiers based upon their annual production levels and receive Maine Dairy Stabilization "Tier" Program payments based on what tier they are in when milk price falls below the target price for that tier. A farm is identified by the tier in which it ends the year

relative to their production. Farms move through each of the four tiers as their total production increases. All farms begin the year in Tier 1 and move into Tier 2 after they produce 16,790 cwt. Likewise, farms move to Tier 3 after producing 49,079 cwt. and into Tier 4 after producing more than 76,800 cwt. Many farms never move out of Tier 1. If a farm is referred to as a Tier 2 farm, it indicates a farm that ended the milk production year in Tier 2.

Maine had a total of 220 dairy farms in 2019; 132 of these farms were conventional. Numbers of farms from each tier were selected to represent the proportion of producers in Maine in each tier. The percentages reflected in each tier for Tiers 1 through 4 respectively, were 51.5%, 28.8%, 6.0% and 13.6% of Maine's 132 conventional dairy farms. Multiplying these percentages yielded the following breakdown of farms for the study: 20 Tier one farms, 12 Tier two farms, 3 Tier three farms and 5 Tier four farms. Farms selected to participate in the data collection process within each tier group were representative of each tier group from the standpoint of farm size, geographic location, and breed. (Table 1). The thirty-six farms that completed the milk production expense data collection process in phase two of this study made up 27.2% of the conventional Maine farms shipping milk and produced 35.8% of the conventional milk in 2019. This compares with 22.4% of conventional farms in the 2016 study.

Table 1. Characteristics of Study Farms, 2019

	Tier 1	Tier 2	Tier 3	Tier 4
No. Conv Farms (total =132 total)	68	38	8	18
No. Farms in Study (total=36)	16	12	3	5
Avg Yearly Production per farm in cwts	9,878.3	30,338.1	64,646.6	269,968.9
Avg No. Cows per farm*	51	133	243	899

*Herd size estimated by owners during interviews

All relevant cost components were collected to determine cost of milk production. Financial forms from each farm were reviewed to determine milk production expenses in 2019 including milk checks, summary reports from farm financial recordkeeping systems, and tax forms Schedule F and Form 4562. The breakdown of depreciation costs was recorded. To do some accounting adjustments, farmers were asked to report the expenses pre-paid in 2018 for 2019 and in 2019 for 2020 as well as the amounts in open accounts carried forward from 2018 to 2019 and from 2019 to 2020. Lastly, farmers were asked to provide the number of hours of paid family labor, to estimate the hours of unpaid family labor, and provide hours of paid nonfamily hours they had in 2019.

Cash operating costs were adjusted as previously mentioned for prepaid expenses in both years 2018 and 2020. Bills carried over into 2020 from 2019 were added to 2019 expenses, while bills carried into 2019 from 2018 were subtracted. Components of the milk production expenses included hired labor, dairy feed, machinery rent/lease, machinery repairs, fuel, breeding, veterinary and medicine, milk marketing and promotion, dues, bedding, licenses/registration, utilities, milk room supplies, production testing, fertilizer/lime/sprays, repairs, property taxes, interest, insurance, and miscellaneous livestock expenses. Farm record systems were evaluated for non-milk production expenses and removed from the calculations when found. Please note that principle on loan payments is not included in the cost of milk production, but the interest is treated as an expense and is included in cost calculations.

For those operations that produced feed for sale, crop production expenses were adjusted to those costs that supported milk production of the farm. For example, there were some farms that produced more acres of corn silage/corn grain than they used on their farm; forage/corn grain from these extra acres was used

as an additional source of income and sold to other farms. Producers were asked to estimate the crop production expenses to cover the crops that were actually used for milk production on the farm.

Producers were asked if every worker on the farm received a regular paycheck that was included in the hired labor expenses, especially in those farms operating as corporations and partnerships. Producers were also asked if the owner received a regular paycheck that was included in labor expenses. This information was used to adjust corporations/partnerships/LLC to single proprietorships by removing one principal owner from the hired labor. The value was determined to be \$37,000 and was removed from the total hired labor category of expenses¹. A similar value (\$36,000) was used in the 2010, 2013 and 2016 Maine Milk Commission Cost of Production studies. Similarly, the \$37,000 value was added in as operator management and labor for the cost of production calculation for all farms separate from hired labor. This is not a calculation that was requested by the Maine Milk Commission, but was included for additional information.

The value of \$11.00 was used for the calculation of unpaid family labor. Unpaid family labor is important for the operation of a farm; if family labor was not available for farm tasks, farm labor would need to be hired to carry out these tasks. The calculation of the value of unpaid family labor is important to help get a clearer picture of the true labor cost to run each farm. This number is consistent with what was used earlier and agrees with values for basic farm labor on dairy farms.² This is not a calculation that was requested by the Maine Milk Commission, but was included for additional information.

Study Results

Part 1 – A Demographic Summary of the Maine Dairy Industry 2019

The initial phase of this project consisted of a short survey that was mailed to a total of 132 conventional Maine dairy farms that had shipped milk in 2019. (Farms producing organic milk were excluded from the study because their cost structures are different due to the specific requirements associated with organic certification practices and different market prices for approved organic product inputs). Respondents were contacted up to a total of three times to collect some basic dairy industry information (see Appendix 1). For example, all 132 farms were sent coded survey forms with stamped addressed reply envelopes. Those farms not responding within a month of the mailing were sent the survey a second time. Those not responding during the second month were sent a third survey and request. A response rate of 54.1% (72/132) was obtained from the first mailing, 32.3% from the second mailing (21/65) and 31.5% (12/38)

¹ This number was derived from the 2019 Farm Credit East Northeast Dairy Farm Summary (267 farms from across the northeast were in this summary); the average labor and family living cost per person (accounting for operator and other family labor) for farms producing 800,000 to 899,000 lbs of milk per worker was \$37,007. The range in the Farm Credit East average labor and family living per person ranged from \$19,864 for farms producing less than 599,000 lbs of milk per worker to \$55,480 for farms producing 2.0 million or more lbs of milk per worker.

² Perhaps the better number to use in future studies is the average farm labor cost for agricultural operations determined by the National Ag Statistics Service (NASS). The 2019 New England Agricultural Statistics Bulletin (https://www.nass.usda.gov/Statistics_by_State/New_England_includes/Publications/Annual_Statistical_Bulletin/2019/2019%20New%20England%20Annual%20Bulletin_revised.pdf) reports an average labor cost for livestock labor for 2019 was \$13.81, but interviews of dairy producers indicated that farm workers were paid minimum wage (Maine Minimum wage 2019 \$11.00 <http://legislature.maine.gov/statutes/26/title26sec664.html>).

from the third mailing. This system yielded 105 total responses from the 132 conventional farms contacted for a 79.5% response rate. The response rate of the current survey was higher than the study done on 2016 milk production with a response rate of 65.2% (105/161 farms).

Table 2 illustrates a snapshot of the dairy industry based on the survey responses. Not all numbers add up to the total responses because not all farms answered each question.

Table 2. Snapshot of the Maine Dairy industry in 2019 based on survey responses.

		No. Farms	Responding
Average No. Milk Cows/farm	184.8 cows	104	
Farm Recordkeeping Used			
	Farm Acct Book	14	
	Quickbooks or other software	51	
	Checkbook ledger	21	
	Outside Accountant	8	
	Farm Credit/other	2	
	Other	6	
Use Pasture System	Yes	73	Avg Acres/farm = 33.4
	No	32	
Grow Corn Silage	Yes	78	Avg Acres/farm=226
	No	25	
Utilize Cover Crops In Fall if grow corn silage	Yes	39	
	No	39	
Avg Acres Hay land		86	Avg Acres/farm=218.6
Milking System			
	Parlor	63	
	Stanchion/Tie stall	42	
Use Production Record Program like DHIA			
	Yes	60	
	No	43	
Calculated Averages Based on Survey Responses			
	Calves per milk Cow	0.43	
	Heifers per milk Cow	0.45	
	Crop Acres per milk Cow	2.9	Range 2 – 12.5
	Avg Lbs Milk per Cow per Year	20,624	

In evaluating the snapshot of Maine dairy farms in 2019 with the survey done in 2016, computerized accounting software was the most frequent response with use of a checkbook ledger as the next most common form of recordkeeping. Pasture is still used by a high majority of farms in the current study at 69.5% of farms reporting some form of pasture use with their cattle. Producers raising corn for silage were similar to the 2016 study as was the total average acres of corn for silage. Use of cover crops for those farms producing corn silage did not rise appreciably between the 2016 and 2019 studies with approximately half of the farms growing corn silage using cover crops. Similarly, there was not a change in the percentage of farms milking in a parlor versus a stanchion/tie stall between the 2016 and 2019 studies. Numbers of farms participating in a production recordkeeping system like the Dairy Herd Improvement Association (DHIA) was similar between the two studies with the percent of farms participating in 2019 slightly higher.

A few indices were calculated from survey responses to evaluate the replacements per milking cow, crop acres per milking cow and average lbs of milk per cow per year. These indices are useful to compare with other studies and will establish a base for comparison in further Maine studies.

Part II – Evaluation of Milk Production Expenses on individual farms

The Maine dairy industry changed in total number of farms from 247 in 2016 to 220 in 2019. The number of conventional dairy farms decreased from 161 farms in 2016 to 132 in 2019. As indicated earlier in the methods section, thirty-six (36) Maine dairy farms representing the four Tier levels were interviewed to gather data for the current study.

Tables 3a, 3b, and 3c below compare the number of study farms, the average number of milk cows per herd, and the average production per cow for the current and previous two Cost of Production studies. The overall average number of milking cows per herd in phase two of the 2019 study was 212.4 cows. This compares with the statewide survey average from 104 farm survey responses in phase one of 184 cows. Evaluating the data in Table 3b below, there is an increase in the Tier 4 milking cows per farm compared with the average in the previous two Cost of Production studies. This number is the average number of milking cows from study farms participating in the current study; the average number of milking cows in all Tier 4 farms that provided data (17 of 19) is 683 which is similar to the average number of milking cows in the previous two Cost of Production studies.

Table 3a. Numbers of Maine farms in the current and previous two Cost of Production studies.

	Tier 1	Tier 2	Tier 3	Tier 4
No. Farms in Study 2013 (total=37)	16	10	3	8
No. Farms in Study 2016 (total=36)	17	10	4	5
No. Farms in Study 2019 (total=36)	16	12	3	5

Table 3b. Average Number of Milking Cows on Maine farms in the current and previous two Cost of Production studies.

	Tier 1	Tier 2	Tier 3	Tier 4
Avg No. Cows per Farm in Study 2013	50	157	260	686
Avg No. Cows per Farm in Study 2016	53.5	108.4	215.5	555.8
Avg No. Cows per Farm in Study 2019	51	133	243	899

Table 3c. Average yearly production in hundredweights (cwts) of Maine farms (rounded) in the current and previous two Cost of Production studies.

	Tier 1	Tier 2	Tier 3	Tier 4
Avg Yearly Production/farm in cwts 2013	9,783	33,928	60,398	172,422
Avg Yearly Production/farm in cwts 2016	9,843	24,494	58,689	138,538
Avg Yearly Production/farm in cwts 2019	9,878	30,338	64,647	269,969

Table 4 below reports the calculated average costs of milk production per hundredweight for the 2019 study. The first line of the summary is representative of the definition of the short run breakeven (SRBE) cost, which is a standard number for comparison and specifically referenced in statutory language regarding the Maine Dairy Stabilization “Tier” Program (referenced earlier on p 3). The second line of the table details the addition of depreciation costs to the SRBE. Typically, total depreciation which includes Section 179 depreciation is not added as a cost of production. Typically, assets are capitalized over their useful lifespan and depreciation taken based on that lifespan. Section 179 depreciation allows producers to expense certain assets in the year they were placed in service and the limits allowed under Section 179 have increased in recent years. Section 179 is used more often than in the past because of the tax benefits. Because of the changes in Section 179 depreciation and changes in how it is used, there is not an easy way to include depreciation in a retrospective study. With that in mind and recognizing this issue, total depreciation including Section 179 depreciation was included as a cost in this study as was done in the 2016 Cost of Production study.

Table 4. Maine Conventional Milk Industry Cost of Production Study, 2019. Average Costs of Milk Production per Hundredweight (cwt). 2019

Maine Conventional Milk Industry Cost of Production Study, 2019					
	Tier 1	Tier 2	Tier 3	Tier 4	Overall
Average Cash Operating costs – Short Run Break Even (SRBE)	\$23.05	\$21.44	\$20.93	\$20.21	\$21.94
Average Cash Operating costs (SRBE) + depreciation*	\$25.38	\$23.33	\$24.81	\$21.56	\$24.12
Average Cash Operating costs (SRBE) + depreciation + mgt** +unpaid family labor***	\$34.91	\$25.61	\$25.82	\$21.76	\$29.22

*A measure of total depreciation including section 179
 **Management fee for the owner was valued at \$37,000
 ***Unpaid family labor is valued at \$11 per hour

As a means of comparison of the current results with the last study, the calculated costs of production from the 2016 study are included in Table 5. Calculations for the two studies were done the same way regarding the declared differences in management fee used and value of unpaid family labor. The overall short run breakeven estimate in the current study was \$1.01 per hundredweight higher than the 2016 study. Increases of \$1.41, \$3.74, and \$0.15 were seen for the current study for Tier 1, Tier 3, and Tier 4 farms, respectively, while the short run break even cost decreased \$0.42 for the tier 2 farms compared with the 2016 study.

Table 5. Maine Conventional Milk Industry Cost of Production Study, 2016. Average Cost of Milk Production per Hundredweight (cwt), 2016

Maine Conventional Milk Industry Cost of Production Study, 2016					
	Tier 1	Tier 2	Tier 3	Tier 4	Overall
Average Cash Operating costs – Short Run Break Even (SRBE)	\$21.64	\$21.86	\$17.19	\$20.06	\$20.93
Average Cash Operating costs (SRBE) + depreciation*	\$24.33	\$24.06	\$19.33	\$21.30	\$23.24
Average Cash Operating costs (SRBE) + depreciation + mgt** +unpaid family labor***	\$30.71	\$25.92	\$20.49	\$21.57	\$26.96
*A measure of total depreciation including section 179 **Management fee for the owner was valued at \$36,000 ***Unpaid family labor is valued at \$10 per hour					

Discussion

Challenges and Acknowledgements

During the conduct of the current study, collecting detailed information from farms was made more difficult by the numerous systems each business uses for accounting of costs. Some farms had non-milk producing enterprises within the farm accounting system; these farms were further interviewed to separate out these costs. Every attempt was made to normalize the costs into categories that could be used for our analysis. A big thank you goes out to the producers who cooperated in the study for the time and effort they spent to gather data for this study.

Comparative Analysis

Costs of production on a dairy farm change with the economy. When the milk price is low, farmers tighten their belts and minimize their expenses, resulting in a decrease in the cost of production. In times of higher milk prices, producers have more income to put into improving land productivity, facility improvements, etc. and cost of production rises.

An illustration of this is shown in Table 6 which pulls numbers from the Farm Credit East Northeast Dairy Farm Summaries from the years 2015 to 2019 (Laughton, Chris, 2020). It is important to note that the average herd size is much larger in these summaries than Maine herds and covers a much wider northeast geographic region. The Farm Credit East cost of production is from 267 herds with an average 600 cows (roughly 3.25 times the size of the average Maine dairy herd). The numbers are included only to illustrate that as milk price changes, the net cost of milk production changes as well (ie. when milk price increases, cost of production often increases and vice versa).

Table 6. Cost of Production Variation and Relation to Milk Price. Northeast Dairy Farm Summary 2019, Farm Credit East.

	2015	2016	2017	2018	2019
Milk Price/cwt	\$18.24	\$16.85	\$18.32	\$17.19	\$19.18
Adjusted Cash Operating Expense	\$20.00	\$18.24	\$18.54	\$18.60	\$18.59
Net Cost of Milk Production*	\$18.36	\$16.79	\$17.18	\$17.72	\$17.81
Avg No. Cows per Herd	374	403	470	478	600

From: Northeast Dairy Farm Summary 2019, Farm Credit East.

*Adjusted Cash Operating Expense + calculated depreciation + family living – non milk expenses

Farm Credit East does a breakdown of New York versus New England herds in their financial summary. Table 7 illustrates the difference in the adjusted cash operating expense between these two regions. With a similar average milk price, the adjusted cash operating expense (similar to the short run breakeven calculation in the current Maine Cost of Production study) was \$2.86 higher for New England herds than New York herds. Average herd size was much higher for the New England herds (577 milking cows) in their summary than the average herd in Maine (185 milking cows; 2019 Cost of Milk Production study). The New England average adjusted cash operating expense of \$21.27 compares favorably with the overall average SRBE calculated in the current 2019 Maine Cost of Production study of \$21.94.

Table 7. Comparison of New York and New England herds in the 2019 Northeast Farm Credit Dairy Farm Summary, Farm Credit East.

	New York	New England
	2019	2019
Milk Price/cwt	\$19.17	\$19.36
Number of Farms	249	18
Pounds Milk Sold/Farm	15,567,436	14,180,488
Adjusted Cash Operating Expense	\$18.41	\$21.27
Net Cost of Milk Production*	\$17.59	\$21.33
Average No. Cows per Herd	601	577

From: Northeast Dairy Farm Summary 2019, Farm Credit East.

*Adjusted Cash Operating Expense + calculated depreciation + family living – non milk expenses

Loughton, Chris, 2020. 2019 Northeast Farm Credit Dairy Summary. Farm Credit East.

In all the studies that are compared with the current Maine data, studies use the term adjusted cash operating expense and this is very close if not identical to the Maine definition of short run break even. In an effort to standardize the definition of Short Run Breakeven (SRBE) costs, we are specifying exactly what and what was not included and how each calculation was done for use with future studies. The

purpose of this is to set a precedent for a clear and consistent definition for future SRBE analyses and provide an opportunity for data comparison across Cost of Production studies.

The Cornell Dairy Farm Business Summary Analysis Program (Karszes *et. al.*, 2020) reports summary financial information for the dairy herds enrolled in their program. Their 2019 summary evaluated 147 herds with data for both 2018 and 2019. Those herds averaged 1,023 milking cows per herd and had an average operating expense of \$17.48 in 2019. That compares with the Farm Credit East financial summary detailed in Table 7 above with an adjusted cash operating expense of \$18.41 for New York herds and the average for Maine herds in the current Maine Cost of Production study of \$21.94, an increase of \$4.46 per hundredweight above the Cornell average. In both studies, herd size was much larger for the New York herds than the average Maine dairy herd detailed in Table 1 of this report at 185 milking cows. The Cornell program also broke out summary financial data by herd size; data from herds less than 250 milking cows is discussed later in the report.

The United States Department of Agriculture Economic Research Service (USDA-ERS) calculates milk production costs using a 2016 base by state and was last calculated 10/1/2020 (<https://www.ers.usda.gov/data-products/milk-cost-of-production-estimates.aspx>). Their system is slightly different, but extrapolating numbers from their analysis results in a Maine comparison cost of \$22.53 (total operating costs + hired labor + taxes and insurance). This compares with the Maine average of \$21.94. All of the components of the USDA-ERS cost are not detailed, but this represents a similar calculation to the Maine short run break even. The estimate calculated by USDA-ERS assumes a herd size of 124 cows and an average production of 20,805 lbs milk per cow.

USDA-ERS also does a comparison of milk production costs in various regions of the United States (<https://www.ers.usda.gov/data-products/commodity-costs-and-returns.aspx>) that was last calculated on 10/1/2020. Maine is included in the Northern Crescent region (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, New York, Michigan, Wisconsin and portions of Minnesota, Ohio, Pennsylvania and Maryland). Pulling similar numbers from their estimates as the USDA-ERS Maine average above, results in an average cash cost of production for the Northern Crescent states of \$17.02 assuming an average herd size of 134 milking cows and production per cow of 21,646 lbs of milk.

It is important to compare changes in Maine with the larger geographic region that includes some Maine data. The Northeast Dairy Farm Summaries produced by Farm Credit East are the best source of that information.

Purchased grain cost is one of highest expense categories on a dairy farm. Review of the Farm Credit East data and our Maine data illustrates the higher cost of purchased feed per hundredweight (cwt) of milk produced. The Northeast Dairy Farm Summary for 2019 published by Farm Credit East reports that feed cost per cwt was \$1.43 lower for Farm Credit East New York farms at \$6.21 versus \$7.64 for New England farms. Purchased feed cost per cwt of milk from the current study was \$7.43 for all Maine farms (purchased feed cost per cwt milk was \$7.39, \$7.79, \$7.00, and \$6.95 for Tiers 1 through 4, respectively) in the study which compares favorably with the Farm Credit East New England average. The difference in feed cost per hundredweight is one component of a higher cost of milk production in Maine compared with New York. Comparison of the change in feed cost per cwt for Northeast Farm Credit East farms saw an increase of 13% from 2016 (\$6.76) to 2019 (\$7.64) for New England farms while that increase for Maine farms was 2.3% using data from the Maine Milk Commission studies (\$7.26 in 2016 and \$7.43 in 2019). These data comparisons help illustrate the differences in cost of production across the region as well as the change over time and how relative changes in the Maine study compare with changes in a broader geographical region.

Several other universities have dairy farm financial recordkeeping programs and publish annual summaries of those farms. Table 8 below details the average composition of farms in these programs in Illinois, Michigan, Pennsylvania and New York. The New York data is a subset of the Cornell Dairy Farm Business Summary described in the previous section; the data in this table were for New York herds less than 250 milking cows. Not all studies were completed using the exact same methods. Data in the New York, Illinois, and Michigan studies were calculated from their reports so that the results were similar, if not identical, to the calculation of the Maine Short Run Break Even. The Pennsylvania data is not clear if depreciation and management costs were added to the cost of production calculation published.

Table 8. Comparison of herd composition and cash cost of milk production per hundredweight (similar to the Short Run Break Even) in Northeast and Midwest states compared with the current Maine study.

	Cash Cost Milk Production/cwt	# farms in study	Avg. No. Milking Cows	Avg lbs. Milk Produced per Cow
Illinois ¹	\$19.46	22	229	24,018
Michigan ²	\$17.90	11	727	26,178
Pennsylvania ³	\$19.38	27	Not listed	25,025
New York ⁴	\$18.07	29	134	23,388
Maine ⁵	\$21.94	36	212	26,366

¹ Illinois Farm Business Farm Management Association

² Michigan State University, Dept of Food, Agriculture and Resource Economics, September 2020. 2019 Michigan Farm Business Summary.

³ Tim Beck, PSU Extension. Dairy Financial Performance: How Did 2019 Compare to Previous Years? <https://extension.psu.edu/dairy-financial-performance-how-did-2019-compare-to-previous-years>.

⁴ Karszes, J., L. Hill and W. Knoblauch. 2020. Progress of the Dairy Farm Report. Selected Financial and Production Factors. Less than 250 Cows. Total Operating Expenses calculated from costs per hundredweight breakdown. Dairy Farm Business Summary. New York State, 2019

⁵ Maine Milk Commission, 2019 Cost of Milk Production Study.

The table above illustrates the geographic difference in the cash operating cost of milk production. Maine had the highest calculated cash operating cost of milk production (short run breakeven) of all the studies listed. States other than Maine in table 8 above were reported as a result of farms being involved in a detailed farm recordkeeping program. It is difficult to accurately compare components of costs of production among state summaries due to differences in data summarization. Purchased grain costs, machinery repairs, and vet and medicine costs are likely the easiest to compare since these costs are standard expense categories. Comparing the Maine data with the Cornell summary for these three categories, purchased grain was \$1.17 higher, machinery repairs \$0.29 higher, and vet and medicine \$0.04 higher for Maine herds in the current study compared with the Cornell summary for herds less than 250 cows. The Maine results were calculated in a retrospective study using several different recordkeeping systems so these results should be treated as general and point to areas for further detail in future cost of production studies. Even with these differences, it is interesting to see how Maine farms compared with dairy farms in the northeast and upper midwest regions of the country. The Maine study summarized data from more farms than the other studies.

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Appendix 1
Preliminary questionnaire

Please fill out and return in the enclosed Stamped Envelope

Farm Code _____

What was the average number of milking cows in your herd for the calendar year 2019 _____

What was the average number of heifers <12 mo old _____ and over 12 mo _____ in 2019

Please indicate the pounds of milk shipped in 2019 _____

Anticipated pounds of milk shipped in 2020 _____

Current level of milk produced per day _____ lbs

OR per pick up _____ every ____ days pick-up

Which company purchases your milk? _____

What type of financial recordkeeping system do you use? Circle One.

- a) Farm Account book
- b) Quick books or other software package
- c) Check book ledger
- d) Outside accountant
- e) Farm Credit or other business analysis program
- f) Other? (Please indicate) _____

Do you use a pasture based grazing system? Yes/No Milk Cows ___ Dry Cows ___ Heifers ___

Number of acres of pasture _____ Number of acres of Grass/legume for hay or silage _____

Do you grow corn silage? Yes _____ No _____ If yes, how many acres? _____

If you grow corn silage, do you use cover crops in the Fall? Yes _____ No _____

Are you enrolled in a production record keeping system such as DHIA or some other computerized herd record keeping system? Yes ___ No ___

Number of full time hired (non family) employees _____ (fulltime is 57 hr/wk for 50 wks/yr)

Number of full time family labor workers No. Paid _____ No. Not Paid _____

Do you milk in a parlor _____ or stanchion/tie stall barn _____?