

# 2020 Pennsylvania Dairy Survey



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## EXECUTIVE SUMMARY

The purpose of this study was to evaluate current demographics and trends within the Pennsylvania dairy farm community, as well as study the impacts the past year may have had on the dairy farm community. The survey covered questions within four difference categories: farm demographics, impacts of the pandemic, farm management practices, and cooperative and milk marketer related questions. More than 5,000 surveys were mailed to Pennsylvania dairy farms in June 2020. Farms could complete the survey online or mail a completed survey back to the Center for Dairy Excellence. The deadline to submit surveys was July 31, 2020.

## Representation of Survey Results

The Center received completed surveys from 711 farms, with 83 percent (or 588 farms) being in business at the time of completing the survey and 17 percent (or 123 farms) indicating they had exited the business prior to completing the survey.

- Dairy farmers representing 55 of Pennsylvania's 67 counties participated in the survey. Lancaster County led all counties with 142 dairies completing the survey. Responses from 10 counties accounted for 60% of total surveys completed.
- Key demographics of those completing survey were:
  - Average herd size was 136 cows, with 107 heifers
  - Average milk production per cow per day was 65.8 pounds, for an annual herd average of 20,068 pounds. Survey responses were broken into four categories, based on this number: Less than 50 cows, 50 – 99 cows, 100 – 199 cows, and greater than 200 cows.
  - The average age of the primary operator was 54 years old, with 5 percent of the respondents being female.

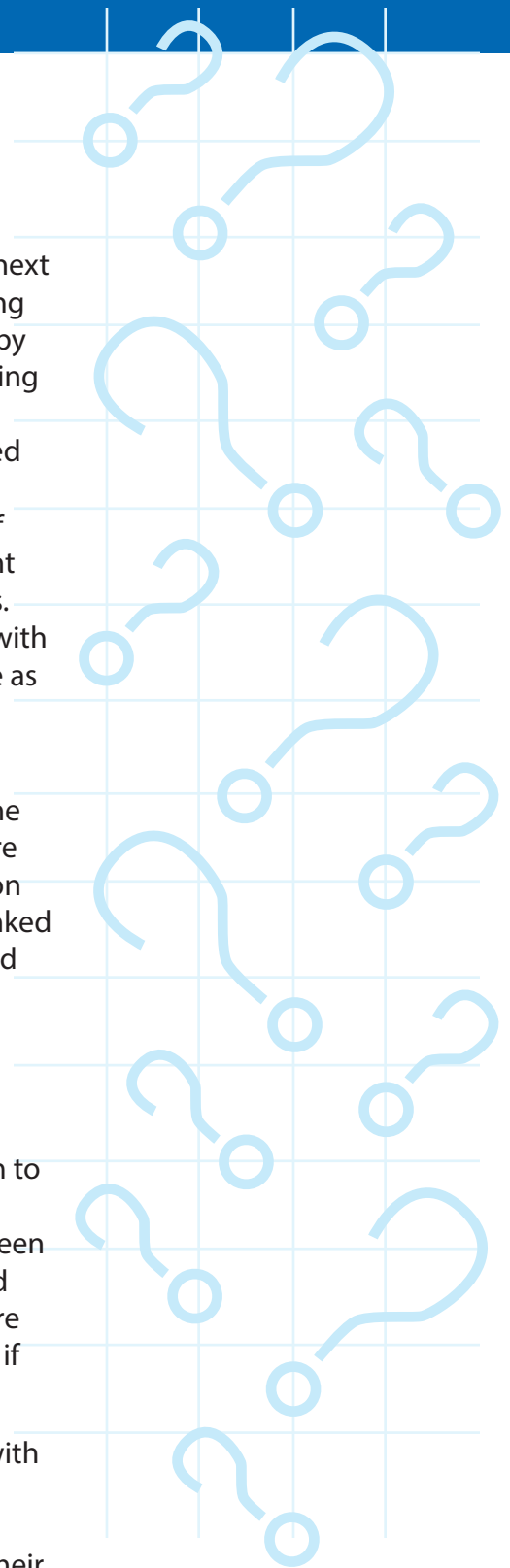


## Key Points Identified Within Survey Results:

- COVID-19 was a huge disruption to dairy markets in 2020. Pennsylvania was not immune to its effects. 60 dairy farms reported that they had dumped milk in March, April, and/or May. These dairies dumped a total of nearly 2 million pounds of milk. Seven dairies from the 200+ Cows category were responsible for over 1 million pounds of the total reported volume dumped.
- While 80 percent of respondents indicated that they participated in the national Farmers Assuring Responsible Management (FARM) program, 15 percent of the respondents who indicated they did not participate associated themselves with a cooperative or milk marketer that is known to require participation in FARM. This indicates there may be an opportunity to increase understanding among farms regarding the expectations of the FARM Program.
- Many of the respondents indicated making facility improvements in the past five years and that they will continue to do so. Improvements in cow comfort were prioritized and will continue to be, based on the results.
  - From 2015 to 2020, the survey respondents invested in or made 1,214 improvements to their operations. The most common improvement made were changes to improve cow comfort. With 588 active dairies participating in this survey, the average dairy made 2.1 improvements during the last five years. From 2020 to 2025, dairy farms plan to make an additional 960 improvements. Cow comfort was the most common improvement planned. In addition to the 2.1 improvements made between 2015 and 2020, dairies plan on making another 1.6 improvements to their operations over the next five years.
- The majority of respondents valued the use of consultants, with 62% reporting using a financial consultant and 88% using a nutritional consultant in the last five years. Larger dairies tended to be more likely to have used financial or nutrition consultants compared to smaller operations. Crop insurance and milk price risk management tools were not widely used by survey respondents with 26% and 38%, respectively, reporting to have used either tool at some point over the last five years. Again, larger dairies tended to be more likely to have used these tools. 68% of dairies in the 200+ Cows category have used crop insurance and milk price risk management compared to only 13% and 17%, respectively, of dairies in the <50 Cows herd size.

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- Respondents see increasing milk production per cow, components and milk quality, as well as lowering production costs, as key factors in improving performance. The survey asked participants to rank the importance of several factors for improving farm performance in the next three to five years. Increasing milk per cow, components and improving udder health were ranked as somewhat important or very important by 87%, 95%, and 90% of respondents, respectively. 91% ranked decreasing cost of production as somewhat or very important, while 85% ranked stabilizing milk price important, and 90% ranked decreasing purchased feed or maximizing homegrown feed as somewhat or very important. The only factor not ranked important was increasing herd size. 71% of respondents reported that increasing cow numbers was not important to the performance of their operation over the next three to five years. However, larger dairies tended to rank expansion as more important with 40% of dairies in the 200+ Cows category ranking increasing herd size as somewhat or very important.
- Herd size influenced the respondents' ranking of the importance of specific resources to their success. Dairy farmers were asked to rank the importance of factors necessary for their operation. Larger dairies were more likely to rank the importance of each factor as more important on every factor except milk hauling services. The factors larger dairies ranked more important than small dairies include use of outside advisors, land availability, use of computerized systems, labor availability, loan availability, and facility upgrades.
- Nearly 35 percent of the respondents were asked to reduce milk production during the height of the pandemic. Dairy farmers were asked to indicate if their cooperative or milk marketer had asked them to reduce milk production to address the oversupply of milk during the early months of the pandemic. 202 dairies responded that they had been asked to reduce milk production. The most common amount reported was to reduce production by 15%. Each farmer that reported they were asked to reduce production complied by taking at least one measure, if not more, to reduce their milk production.
- A series of questions were asked regarding the farmer's relationship with their milk cooperative or marketer. In general, responses indicate a positive opinion of cooperatives and milk marketers. However, the results indicate an opportunity may exist for milk buyers to improve their relationships with their farmer members/suppliers.



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## Introduction

A survey developed by the Center for Dairy Excellence in conjunction with the Pennsylvania State University Smeal College of Business was mailed to over 5,000 current and former Pennsylvania dairy farmers in June 2020.

The survey consisted of 27 questions in four categories;

1. Owner and herd demographics,
2. Impact of COVID-19 and likeliness of remaining in the dairy business,
3. Farm management practices used or planned to use, and
4. Cooperative or milk marketer related questions.

Dairy farmers were given the opportunity to fill out the survey online or to complete the mailed copy and return it. There were 711 surveys completed. Of the completed surveys received, 123 indicated they were no longer milking cows, representing 17% of total completed surveys. The remaining 588 were still in business at the time of the survey. According to the USDA, 2020 began with 5,730 licensed dairies in Pennsylvania. These 588 dairies represent 10% of Pennsylvania's total dairies and 4% of annual milk production. Herd size was broken down into four categories, <50, 50-99, 100-199, and 200+.

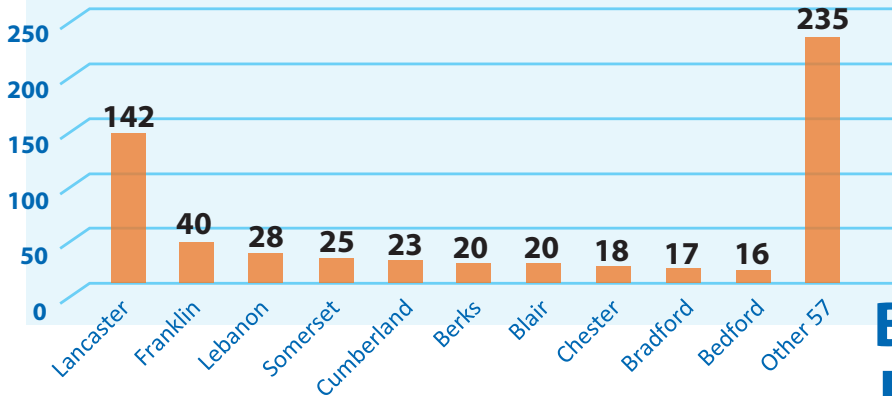
|                       | Number of Farms | Percent of Respondents |
|-----------------------|-----------------|------------------------|
| <50 Cows              | 142             | 24%                    |
| 50-99 Cows            | 255             | 43%                    |
| 100-199 Cows          | 113             | 19%                    |
| 200+ Cows             | 78              | 13%                    |
| <b>Totals/Average</b> | <b>588</b>      |                        |

## Distribution of Responses and Business Type

Dairies from 55 of Pennsylvania's 67 counties participated in the survey. Lancaster, Franklin, Lebanon, Somerset, and Cumberland Counties had the most responses, respectively, and represented 44% of the total. The top 10 counties, which include the addition of Berks, Blair, Chester, Bradford, and Bedford Counties, represented 60% of the total. Three respondents did not report where they were located.

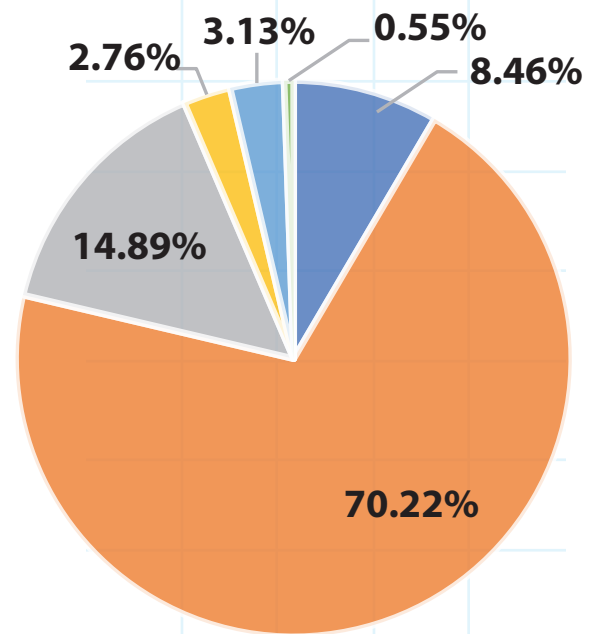
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## Distribution of Responses from Pennsylvania Dairies

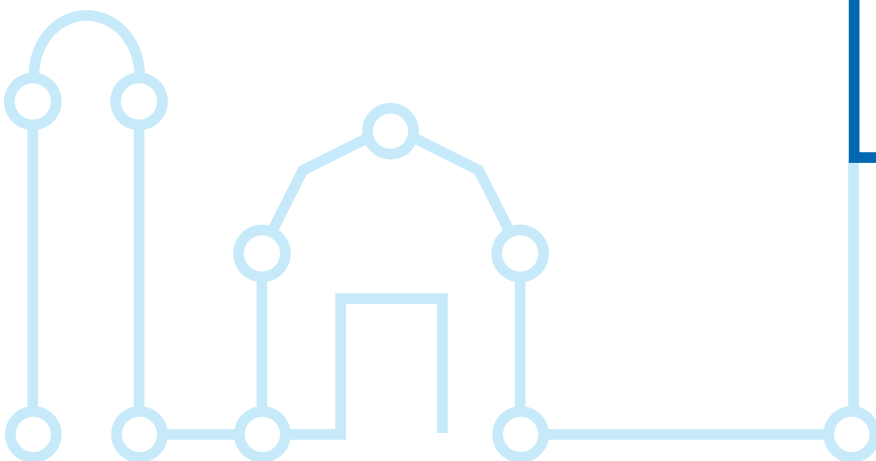


Of the 588 surveys completed by dairy farmers still in business at the time of the survey, 544 reported their business structure. There were 5 main business structures listed. The most common business type was a Sole Proprietorship with 382, or 70% of the surveys reporting this type of business arrangement. A distant second was a Partnership with 81 responses, followed by Limited Liability Companies with 46 Corporations and Self-Employed had the least amount of the five main categories with 17 and 15 responses, respectively. Three other dairies indicated some other business relationship not covered by the previous five categories.

## Business Structure



- LLC
- Sole Proprietorship
- Partnership
- Self Employed
- Corporation
- Other



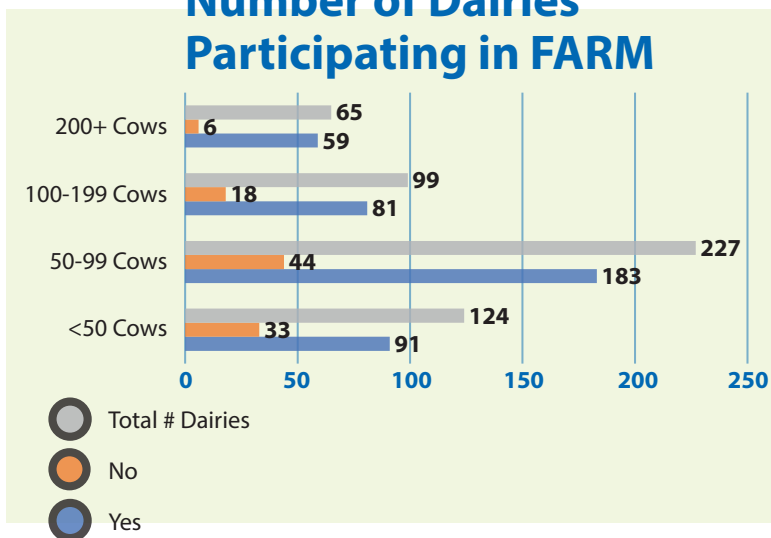
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## Cooperatives and FARM

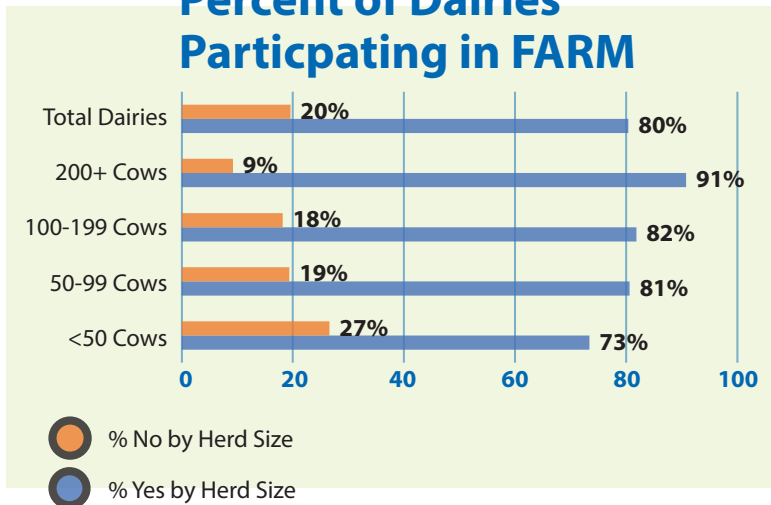
Dairy farmers were asked to provide their milk marketer and whether they participated in the National Farmers Assuring Responsible Management (FARM) Program. Survey responses represent 42 different cooperatives or milk marketers. Additional farms indicated that they market their own milk or finished dairy products.

According to the National Milk Producers Federation, 99% of the volume of milk in the U.S. is enrolled in FARM. According to the results of this survey, 414 dairies (80%) participate in the FARM Program while 101 dairies (20%) reported that they do not. Considering that 90% of the volume of milk in the U.S. is covered by the FARM program, it is not surprising that so many dairies reported participating in the program. What was surprising is the number of dairy farms that reported not participating in FARM when their milk marketer or cooperative requires participation. Of the milk marketers known to require FARM participation, 62 dairies (15%) selling milk to these companies reported that they do not participate in the FARM program. This suggests that perhaps there is confusion among members or a breakdown in communication between the marketer and its members. Dairies in the three smaller herd size categories tended to answer "No" more frequently than the dairies in the 200+ herd size. Of the 62 dairies answering "No," 58 of them were herds with less than 200 cows, representing 14% of the surveys that answered this question. Only 4 dairies in the 200+ answered "No" when their milk marketer requires participation in FARM. This represents 1% of the total surveys responding to this question.

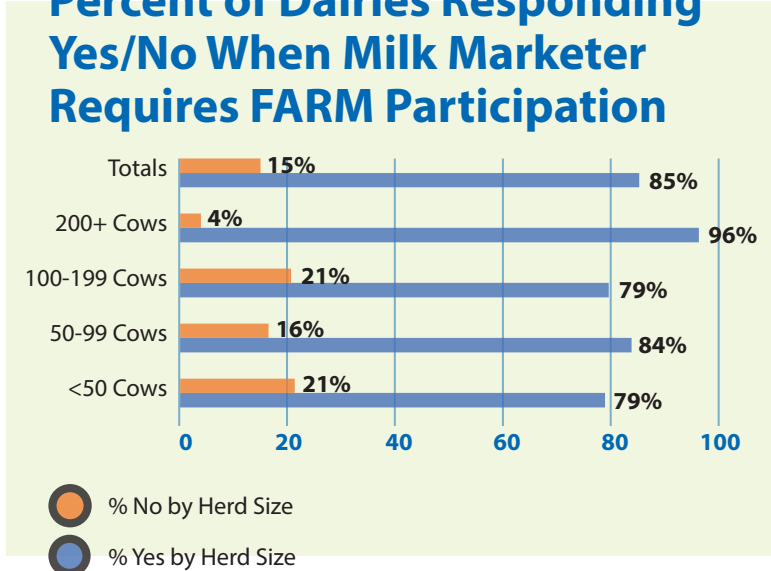
### Number of Dairies Participating in FARM



### Percent of Dairies Participating in FARM



### Percent of Dairies Responding Yes/No When Milk Marketer Requires FARM Participation



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The average primary operator was born in 1966 and average age is 54 years. Women accounted for 5% of the primary operators. Interestingly, the average age of female primary operators was older than male primary operators. The average age of female operators is 58 years, born in 1962. The average age for male primary operators is 51 years, born in 1969. Perhaps this suggests that males are more frequently taking over for the next generation than females, thus lowering the male average age.

## Primary Operator Demographics

|                     | <50 Cows | 50-99 Cows | 100-199 Cows | 200+ Cows | Average Year Born |
|---------------------|----------|------------|--------------|-----------|-------------------|
| # Males             | 121      | 223        | 99           | 61        |                   |
| # Females           | 9        | 10         | 3            | 2         |                   |
| <b>Totals</b>       | 130      | 233        | 102          | 63        |                   |
| % Male              | 93%      | 96%        | 97%          | 97%       |                   |
| % Female            | 7%       | 4%         | 3%           | 3%        |                   |
| Male Average Age    | 48       | 46         | 53           | 56        | 1969              |
| Female Average Age  | 55       | 46         | 63           | 67        | 1962              |
| Overall Average Age |          |            |              |           | 1966              |

## Herd Demographics

|                       | Number of Farms | Number of Cows | Number of Heifers | Heifer: Cow Ratio | Total Daily Milk Production | Milk Production/Cow | Milk Production/Cow/Year |
|-----------------------|-----------------|----------------|-------------------|-------------------|-----------------------------|---------------------|--------------------------|
| <50 Cows              | 142             | 38             | 28                | 0.74              | 2,015                       | 53.3                | 16,254                   |
| 50-99 Cows            | 255             | 68             | 55                | 0.82              | 4,046                       | 59.7                | 18,218                   |
| 100-199 Cows          | 113             | 137            | 119               | 0.87              | 8,033                       | 58.5                | 17,829                   |
| 200+ Cows             | 78              | 534            | 410               | 0.77              | 38,081                      | 71.3                | 21,760                   |
| <b>Totals/Average</b> | 588             | 136            | 107               | 0.79              | 8,930                       | 65.8                | 20,068                   |

The size of dairies reported by the respondents ranged from four cows up to 3,000 cows. The average herd size was 136 cows producing 65.8 pounds per day or 20,068 pounds per cow annually, assuming a 305-day lactation period per cow per year. The average respondent's cows produce 561 pounds less milk than the 2019 state average of 20,629 pounds per cow and 3,323 pounds less than the 23,391 per cow national average. Annual milk production per cow among the two middle size categories was similar with a difference of 389 pounds between them. A difference of 1,575 pounds separates the <50 Cows category from the next lowest category (100-199 Cows). Milk production was the highest among the 200+ Cows category at 21,760 pounds, 3,542 pounds more than the next highest annual total (50-99 Cows). There was a 1.2 pound per day difference between the middle two herd sizes at 59.7 and 58.5 pounds per day compared to 53.3 pounds for the <50 Cows category and 71.3 pounds for the 200+ Cows category. The average respondent had 107 heifers. Average number of heifers per herd size ranged from 28 heifers for the <50 Cows category up to 410 heifers for the 200+ Cows category. The heifer to cow ratio of respondents is a respectable 0.79. The highest average ratio, 0.87, among the size categories was achieved by the 100-199 category, and the lowest, 0.74, occurring with the <50 cows. The old rule of thumb was to have one heifer for each cow. However, with the cost of raising heifers and advancements made in herd health over the years increasing the longevity of cows, this may be an unnecessary goal today. Many dairy farmers underestimate what it costs to raise heifers. Unless a dairy is trying to expand, too many heifers potentially leads to loss of revenue because of overcrowding and other issues. At current market value for heifers, it is difficult or perhaps impossible to recoup the cost of raising heifers if they are sold as springers.

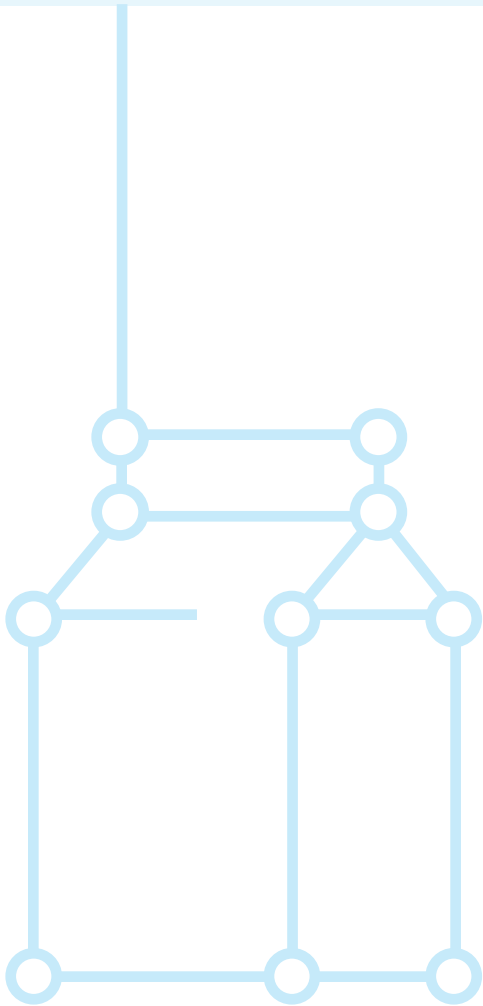
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## Milk Quality

|                       | # Farms with SCC <100,000 | # Farms with SCC 100,000-150,000 | # Farms with SCC 150,000-250,000 | # Farms with SCC >250,000 | % <100,000 | % 100,000-150,000 | % 150,000-250,000 | % >250,000 |
|-----------------------|---------------------------|----------------------------------|----------------------------------|---------------------------|------------|-------------------|-------------------|------------|
| <50 Cows              | 22                        | 51                               | 53                               | 10                        | 16%        | 38%               | 39%               | 7%         |
| 50-99 Cows            | 54                        | 94                               | 97                               | 10                        | 21%        | 37%               | 38%               | 4%         |
| 100-199 Cows          | 20                        | 48                               | 39                               | 7                         | 18%        | 42%               | 34%               | 6%         |
| 200+ Cows             | 10                        | 33                               | 31                               | 4                         | 13%        | 42%               | 40%               | 5%         |
| <b>Totals/Average</b> | 106                       | 226                              | 219                              | 31                        | 18%        | 39%               | 38%               | 5%         |

The only milk quality question asked on the 2020 survey was to indicate the average range of annual somatic cell count (SCC). SCC is a count of white blood cells (measured in cells per mL) in the milk, and the higher the SCC, the more likely a cow has mastitis. Scientific research shows that a cow with an SCC of 100,000 or less is uninfected. An SCC of 200,000 or greater is an indication that she has mastitis in a least one quarter, and greater than 300,000 indicates significant infection. Research shows that once a cow's SCC becomes greater than 200,000, milk production is inhibited by the infection presence even though she may not show any visual symptoms of infection. By keeping SCC below 200,000, dairy farmers can ensure that they have a healthy herd and have greater success maximizing milk production.

Many cooperatives and milk marketers use 250,000 as a cutoff for milk quality incentives. If a herd's SCC count is above 250,000, the dairy does not qualify for milk quality premiums and risks having to pay a milk quality penalty. Most milk marketers use a graduated scale for milk quality premiums where the premium increases as SCC decreases. Of the 582 individuals that reported SCC, only 31 (5%) answered that SCC was in the >250,000 category, while 106 (18%) reported SCC as <100,000. Most responses reported having SCCs in the middle two ranges encompassing 100,000 to 250,000, 226 (39%) dairies reported SCCs ranging from 100,000-150,000 and 219 (38%) dairies reports SCCs in the 150,000-250,000 range. These two categories accounted for 75% of the respondents. Distribution of answers across herd sizes was very similar, making it difficult to say if one herd size was better than the others.





## Workforce Demographics

Three questions on the survey addressed the workforce of Pennsylvania dairy farmers.

The questions were,

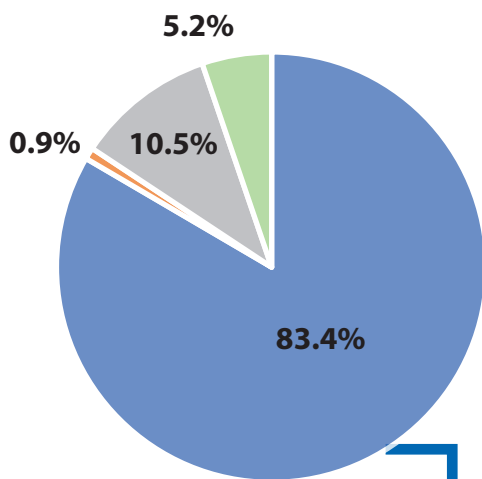
1. How many workers does you farm employ,
2. How many workers are full-time (FT), part-time (PT), seasonal, FT Hispanic, PT Hispanic, or seasonal Hispanic, and
3. What language is used for communication with your employees?

|   | Full-Time | Part-Time | Seasonal | FT Hispanic | PT Hispanic | Seasonal Hispanic |
|---|-----------|-----------|----------|-------------|-------------|-------------------|
| <b>0 Employees</b>                              | 381       | 349       | 547      | 553         | 575         | 588               |
| <b>1-2 Employees</b>                            | 129       | 161       | 28       | 15          | 11          | 1                 |
| <b>3-5 Employees</b>                            | 43        | 60        | 15       | 5           | 2           | 1                 |
| <b>5+ Employees</b>                             | 37        | 21        | 0        | 17          | 13%         | 42%               |
| <b>Total</b>                                    | 590       | 591       | 590      | 590         | 590         | 590               |
| <b>Percent of farms with 1 or more employee</b> | 29%       | 34%       | 6%       | 5%          | 2%          | 0.28%             |

Keep in mind when reviewing the table that respondents could have employees in multiple categories or may not have answered the question. Percentages are based off respondents that answered the question. Four categories were created for observation, 1. 0 Employees, 2. 1-2 Employees, 3. 3-5 Employees, 5+ Employees. Seventy-one percent of respondents reported not having FT employees, indicating that the owner completed daily chores alone or used unpaid family members. Only 29% reported having any FT employees and 34% reported having PT labor. The average herd size in Pennsylvania based on 2019 numbers supports the high number of responses indicating no hired employees. At 86 cows per dairy, the average herd size in the Commonwealth is not large enough to support multiple employees.

Very few farms reported employing seasonal, FT Hispanic, PT Hispanic, or seasonal Hispanic. The smallest portion of Pennsylvania dairy workforce appears to be seasonal Hispanic with only 0.28% of surveys reporting employment of workers from this group. This makes sense because dairy farming is certainly not a seasonal business. However, the results of this survey indicate that much less utilization of immigrant labor is used by the Pennsylvania dairy industry than the national average. Results from a survey conducted by the National Milk Producers Federation and reported in August 2015, estimated that 51% of dairy workers were immigrants. Although, the Center's study only specifically asked about Hispanic labor, only 4.6% surveys indicated the employment of Hispanic individuals.

The predominant language spoken on dairy farms as indicated by this survey is English; 306 dairies reported English as the language used to communicate, representing 88% of the responses. The second most common language was reported as Pennsylvania Dutch/Dutch/German, with 38 (11%) surveys indicating using these as means of communication. With only 20 (6%) responses, the least common language used on Pennsylvania dairy farms is Spanish.

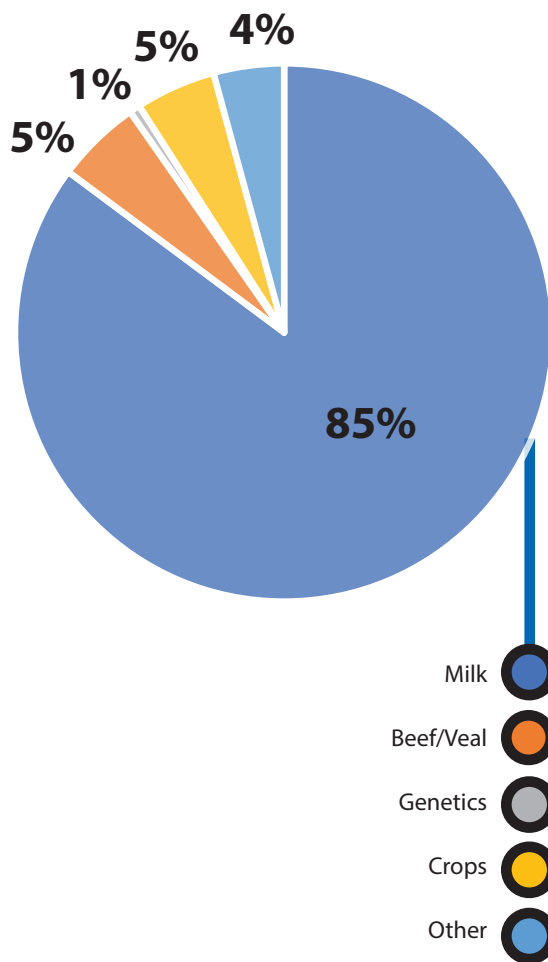


## Languages Spoken Comparison



## Financial Information

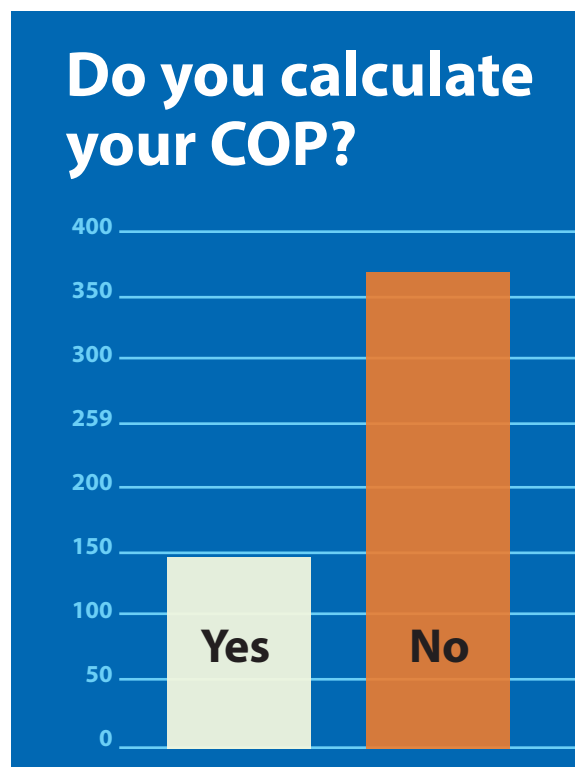
Dairies in business at the time of the survey reported that they derived 85% of their income from milk sales. Four other income categories were provided in the survey for a breakdown of income sources including, Beef/Veal, Genetics, Crops, and Other. Beef/Veal and Crops each accounted for 5% of additional revenue, and Genetics and Other income accounted for 1% and 4% of the remaining income, respectively. The "Other" category could include off-farm income, fruit or vegetable crops, or other sources not specifically mentioned.



## Cost of Production, Average Feed Costs, Return on Assets, and Debt to Asset Ratio

In an attempt to assess the financial stability of Pennsylvania dairy farms, the survey asked a few financial related questions. Unfortunately, very few responded to these questions. With 121 surveys reporting cost of production (COP) and 161 surveys reporting average feed costs, there was enough data to list averages. However, these numbers are for information purposes only and do not represent a large enough sample size to make inferences for the entire state. Less than 50 surveys reported answers related to return on assets and debt to asset ratios, thus, not providing enough useable data to report.

Only 147 dairies indicated that they calculate their COP, representing only 29% of the respondents answering this question. The other 363 (71%) said that they do not calculate their COP. The average COP of the 121 responses was \$16.94 per cwt. Although survey responses to this question were low, average COP by herd size was calculated. COP responses for this dataset ranged from a low of \$15.67 per cwt for the 50-99 cow herd size to a high of \$17.96 for the 200+ category. Dividing responses by herd size further divides them into smaller numbers. It is not recommended to use these as accurate COP indicators for each herd size.



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Only 160 surveys indicated an average feed cost for their dairies. The overall average feed cost for this dataset was \$7.85 per cwt. Average feed cost ranged from a low of \$6.94 per cwt for the 200+ cow dairies and a high of \$10.00 per cwt for the <50 cow dairies. Although this dataset is very small and potentially inaccurate compared to the larger Pennsylvania dairy industry, it does support the belief that with economies of scale, feed cost decreases as number of cows increases. Because of the small dataset and the greater potential for outliers skewing averages in small datasets, these averages are provided for information only and should not be used to make inferences about feed costs for the entire Pennsylvania dairy industry.

## Cost of Production, \$/cwt

|                        | <\$14.00 | \$14.00-<br>\$16.00 | \$16.00-<br>\$18.00 | \$18.00-<br>\$20.00 | \$20.00+ | Average<br>COP by<br>Herd Size | Total # Dairies<br>per Herd Size |
|------------------------|----------|---------------------|---------------------|---------------------|----------|--------------------------------|----------------------------------|
| <50 Cows               | 4        | 2                   | 1                   | 4                   | 5        | \$17.48                        | 16                               |
| 50-99 Cows             | 13       | 2                   | 9                   | 12                  | 1        | \$15.67                        | 37                               |
| 100-199 Cows           | 4        | 3                   | 14                  | 4                   | 4        | \$16.88                        | 28                               |
| 200+ Cows              | 2        | 7                   | 12                  | 12                  | 7        | \$17.96                        | 40                               |
| <b>Overall Average</b> |          |                     |                     |                     |          | <b>\$16.94</b>                 |                                  |

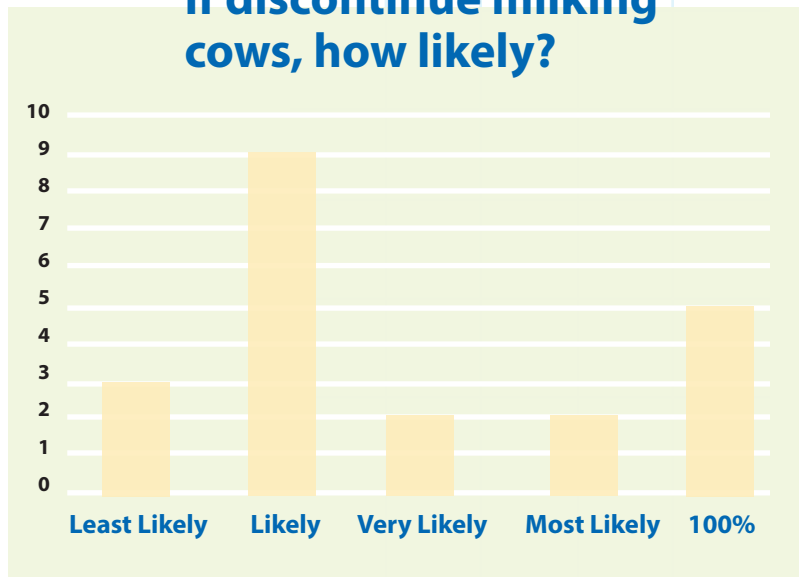
## Average Feed Cost, \$/cwt

|                        | \$0-\$5.00 | \$5.00-<br>\$10.00 | \$10.00-<br>\$15.00 | \$15.00-<br>\$20.00 | \$20.00+ | Average<br>Feed Cost by<br>Herd Size | Total #<br>Dairies |
|------------------------|------------|--------------------|---------------------|---------------------|----------|--------------------------------------|--------------------|
| <50 Cows               | 4          | 17                 | 8                   | 7                   | 1        | \$10.18                              | 36                 |
| 50-99 Cows             | 9          | 40                 | 9                   | 2                   | 1        | \$7.37                               | 61                 |
| 100-199 Cows           | 6          | 18                 | 3                   | 1                   | 0        | \$7.54                               | 28                 |
| 200+ Cows              | 5          | 28                 | 1                   | 1                   | 0        | \$6.49                               | 35                 |
| <b>Overall Average</b> |            |                    |                     |                     |          | <b>\$7.85</b>                        |                    |

## Impact of COVID-19 on Pennsylvania Dairies

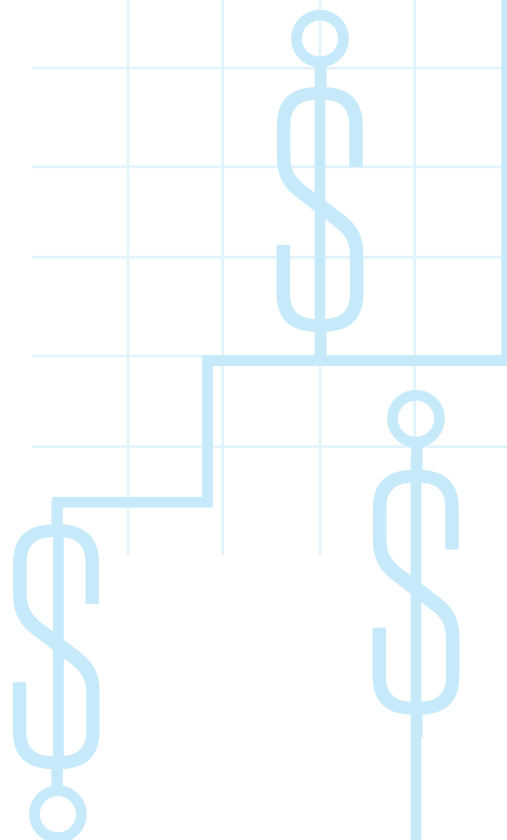
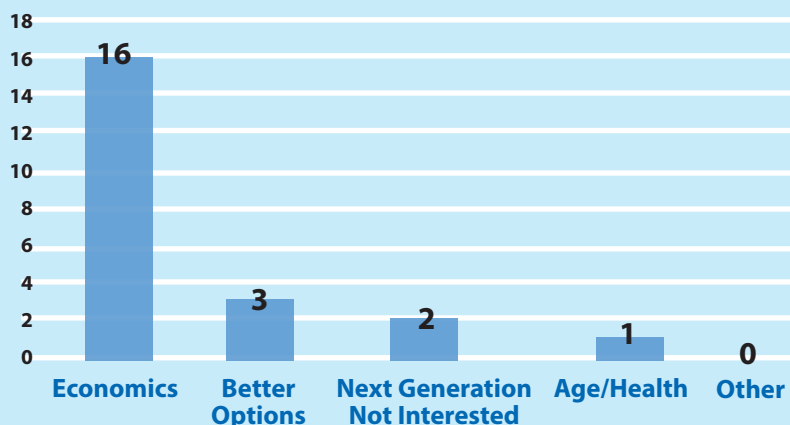
The middle section of the survey was designed to address the impact of COVID-19 on the Commonwealth's dairy industry as of June 2020. Dairy farmers were asked if they expected to be milking cows in the next three to six months because of the market disruptions caused by COVID-19. If the respondent answered that they expected to discontinue milking cows, they were asked a series of follow-up questions to ascertain how likely they were to exit the dairy business and the reason why they anticipated they would exit. Of 531 surveys providing answers to this question, only 22 answered that they were likely to exit the dairy business in the next three to six months. When asked how likely they would be to exit the dairy business, 21 of the 22 answered. The most common answer was "Likely" while the next most common answer was "100%."

### If discontinue milking cows, how likely?



### Reason for Exiting

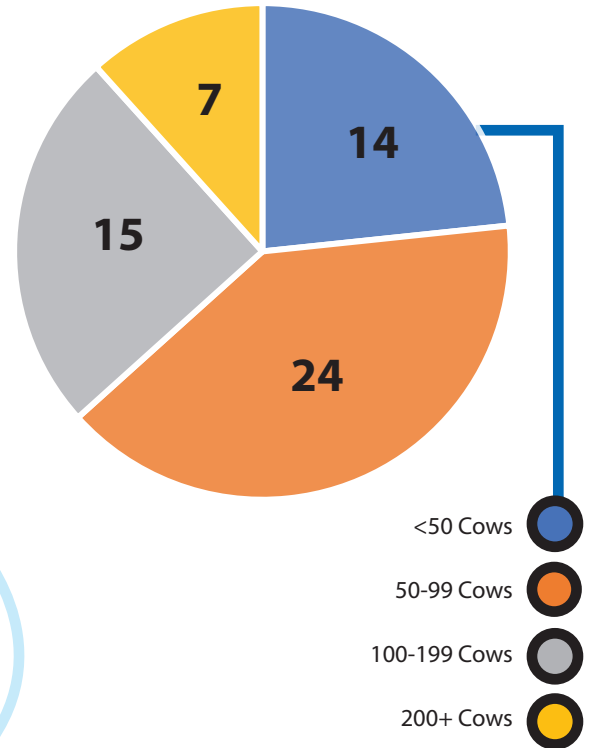
Of the 22 dairies answering that they were likely to exit the business, the main reason offered was, unsurprisingly, economics. Sixteen of the respondents cited economics as their reason for contemplating exiting the dairy business.



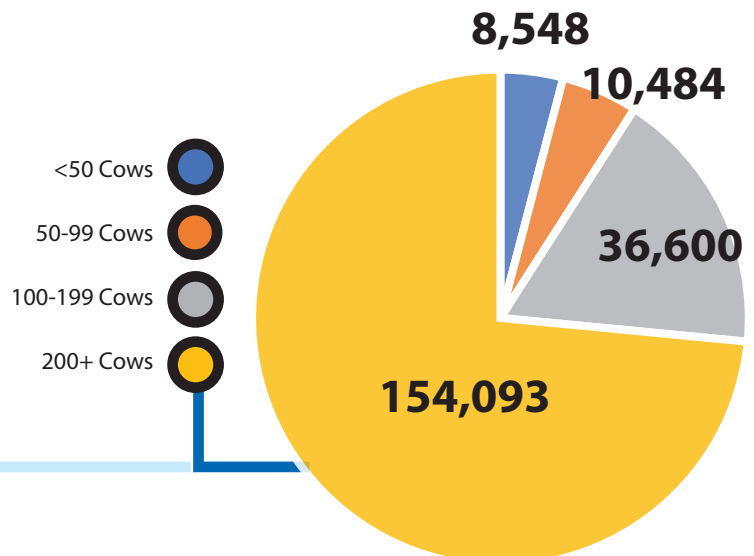
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The survey also addressed the COVID-19 market disruption by asking dairy farmers to answer if they have had to dump any milk. Given the timing of this survey, answers represent the early part of the pandemic when milk was dumped in March, April, and May 2020. Of the 588 completed surveys, 60 dairies reported having dumped milk. The largest number of farms reporting dumped milk is the 50-99 cow herd size with 24 dairies reporting having to dump milk. At 43%, this size category also was the largest category in the dataset. However, this size range did not dump the highest volume of milk. Seven dairies in the 200+ size category reported dumping a total volume of over 1 million pounds or 154,093 pounds per dairy.

## Number of Dairies that Dumped Milk



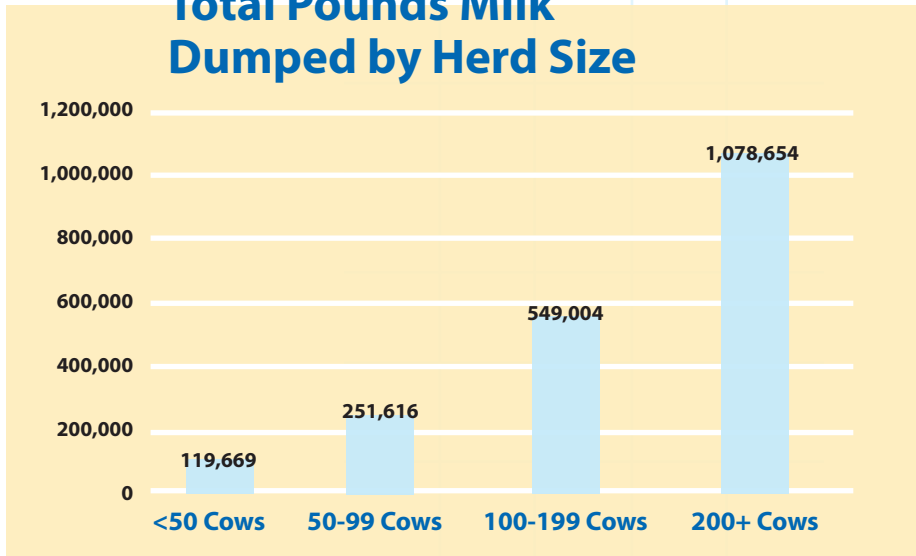
## Average Milk Dumped per Dairy and Herd Size



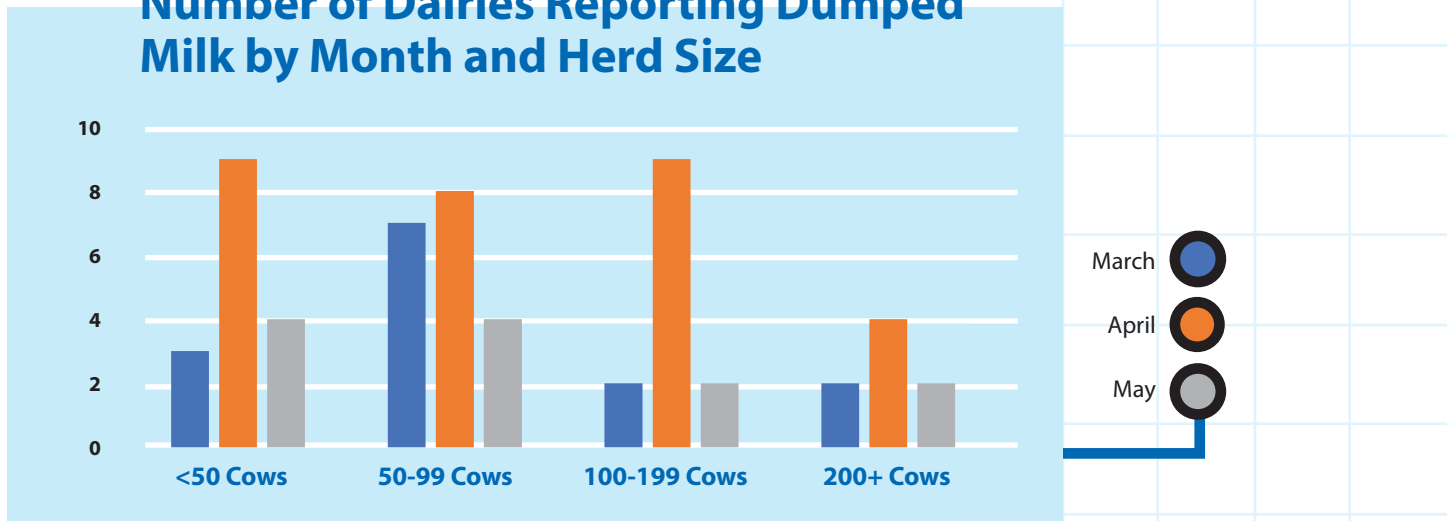
# 2020 Pennsylvania Dairy Survey

The seven larger dairies dumped over 158,000 pounds more milk than the other 53 dairies combined. The volume of milk dumped by survey respondents totaled 1,998,943 pounds which represents 0.77% of Pennsylvania's production from March through June. Most of the milk dumped was dumped in the month of April which was at the height of the shutdown in Pennsylvania and across much of the U.S. Dairy farmers reported dumping, on average, 15% of their production in April, 14% in May and 10% in March. The highest number of farms reporting dumped milk was 30 in April, followed by 14 in March, and 12 in June.

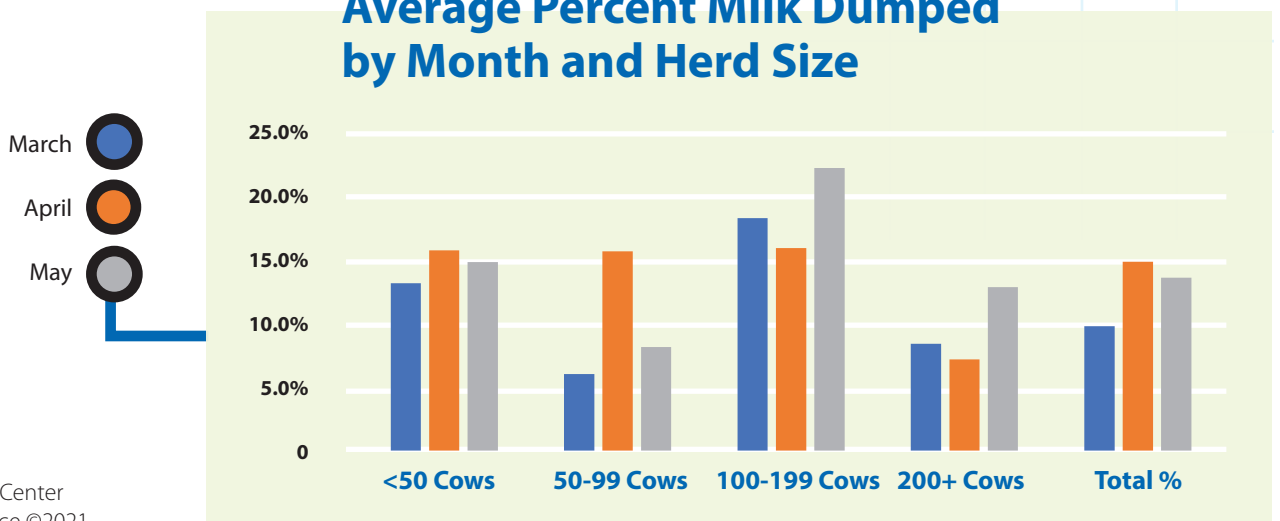
## Total Pounds Milk Dumped by Herd Size



## Number of Dairies Reporting Dumped Milk by Month and Herd Size



## Average Percent Milk Dumped by Month and Herd Size

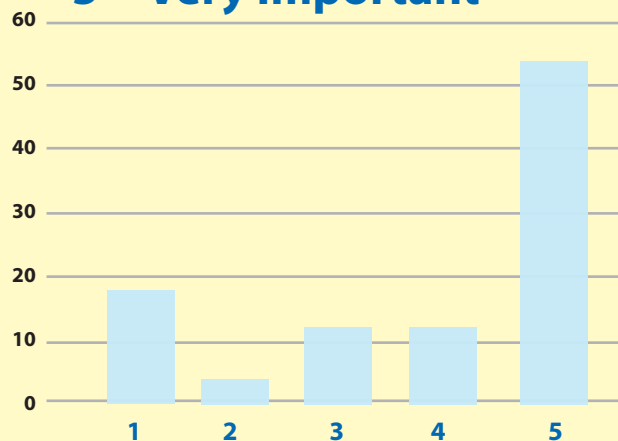


# 2020 Pennsylvania Dairy Survey

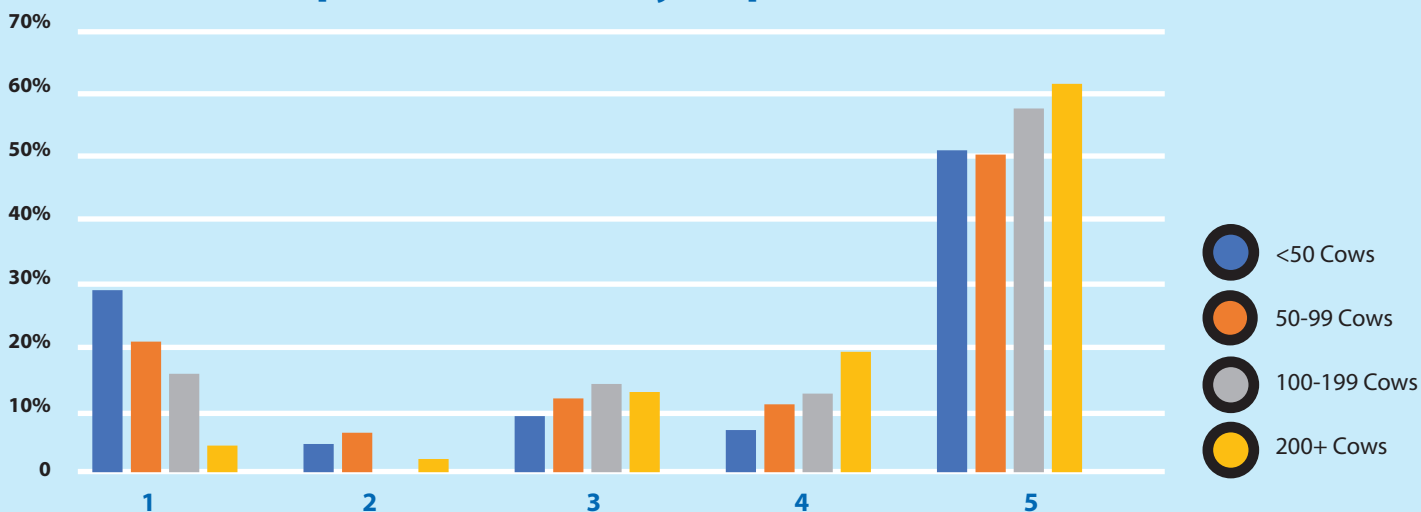
## Compensation for Dumped Milk/CFAP Direct Payments

Those who dumped milk were asked if they had received any reimbursement for dumped milk. Only 60 dairies reported dumping milk and only 22 of those answered that they had received any compensation for the dumped milk. The second part of that question was to provide the average value of the compensation, of which there were not enough answers to analyze. The last question related to COVID-19 compensation asked to rate the importance of USDA's Coronavirus Food Assistance Payments (CFAP) in mitigating market disruptions.

## Ranking of the Importance of CFAP Funding 1 = Not Important, 5 = Very Important



## Ranking of CFAP Importance by Herd Size as % of Total 1 = Not Important, 5 = Very Important



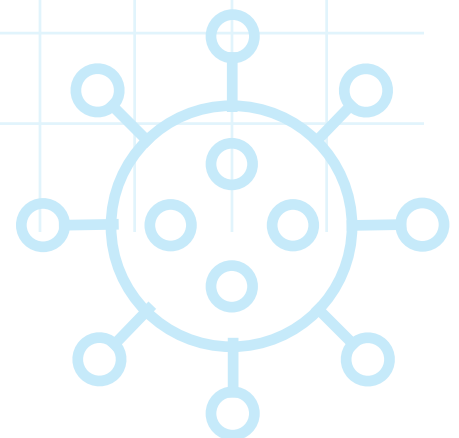
At the time of this survey, only the first CFAP payment had been announced and/or received. Even though Pennsylvania's Dairy CARES program was actively accepting applications for reimbursement to dumped or displaced milk at the time of the survey, the process had not proceeded enough for dairy farmers to have received any reimbursement from this state program by the due date for the survey. Survey participants were asked to rank the importance of CFAP payments on a scale of 1 to 5, with 1 not important and 5 very important. 267 dairies answered this question with 54% ranking importance as a 5. Smaller dairies were more likely to answer that CFAP was not important to their mitigation of COVID-19 disruptions compared to larger dairies. Only 4% of dairies in the 200+ Cows category reported that CFAP funding was not important whereas, 29% of the <50 Cows, 21% of the 50-99 Cows, and 16% of the 100-199 Cows categories indicated that CFAP funding was not important.

## Emergency Plans and COVID-19 Infections

With the potential that employees or key members of the management team may be forced to quarantine due to positive diagnosis or exposure to a person that was positive for COVID-19 and not able to work, dairy farmers were asked if they had implemented an emergency plan. Of the 505 answers received, 37 (7%) had already implemented an emergency plan, while 71 (14%) were working on one. Unfortunately, 397 (79%) had neither implemented an emergency plan nor were working on one. The larger dairies in the 200+ herd size tended to be more likely to have implemented or were working on a plan with 31 of 66, or 47% of the respondents, reporting to have a plan or were working on one. The smallest herd size category (<50 cows) was the least likely to have implemented or be working on an emergency plan. Only 13 (11%) dairies in this size category reported having implemented or were working on a plan while 107 (89%) did not have a plan. This is discouraging because smaller dairies potentially do not have the labor in place for someone else to complete the responsibilities of a key person to continue efficiently operating the dairy. This does not mean that larger dairies would not be negatively impacted by an employee or manager becoming sick with COVID-19. However, with a larger workforce, larger dairies are more likely to have someone who can temporarily fill in if a colleague cannot work due to illness.

|                | Yes,<br>Tested<br>Positive | Yes, Had<br>Symptoms | No  | I Don't<br>Know | Totals by<br>Herd Size |
|----------------|----------------------------|----------------------|-----|-----------------|------------------------|
| <50 Cows       | 1                          | 15                   | 107 | 12              | 135                    |
| 50-99 Cows     | 1                          | 27                   | 175 | 34              | 237                    |
| 100-199 Cows   | 0                          | 6                    | 90  | 8               | 104                    |
| 200+ Cows      | 3                          | 0                    | 62  | 45              | 110                    |
| <b>Totals</b>  | 5                          | 48                   | 434 | 99              | 586                    |
| <b>Total %</b> | 1%                         | 8%                   | 74% | 17%             |                        |

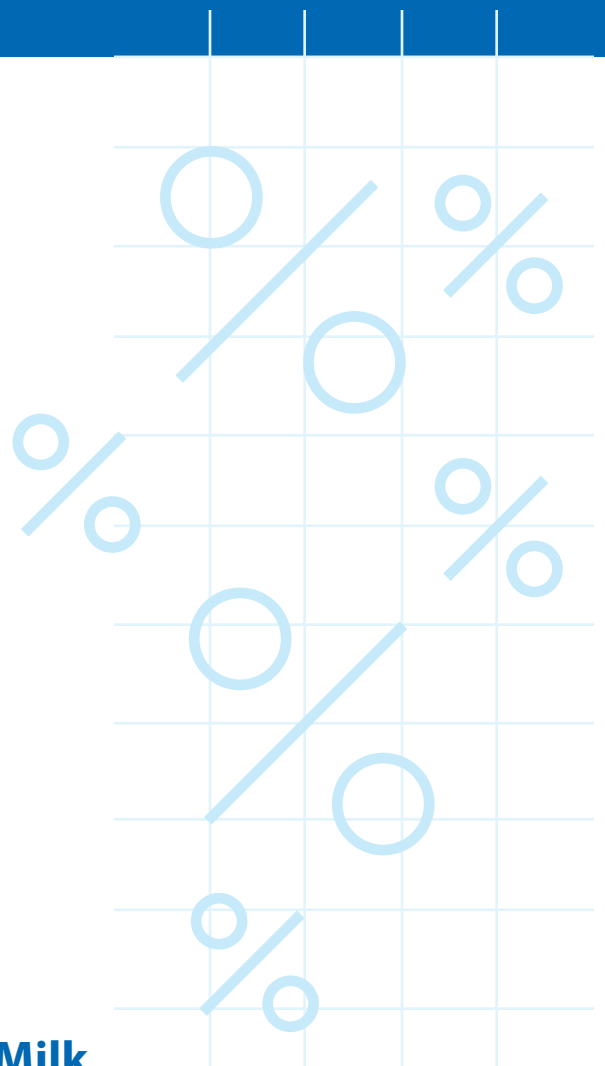
The last question to address COVID-19's impact on Pennsylvania dairies was to ask if anyone on their dairy had been diagnosed with COVID-19. Nearly all respondents answered this question. Five dairies (1%) responded that someone on their farm tested positive, while 48 (8%) responded that someone had COVID-19 symptoms but either tested negative or did not get tested. The majority reported that no one on their dairy had symptoms or they were unsure. 434 surveys (74%) reported that no one on their farm had exhibited any symptoms, while 99 surveys (17%) reported that they did not know if anyone had symptoms or had been tested. Due to the small number of positive cases reported in the results, it is impossible to make inferences based on herd size.



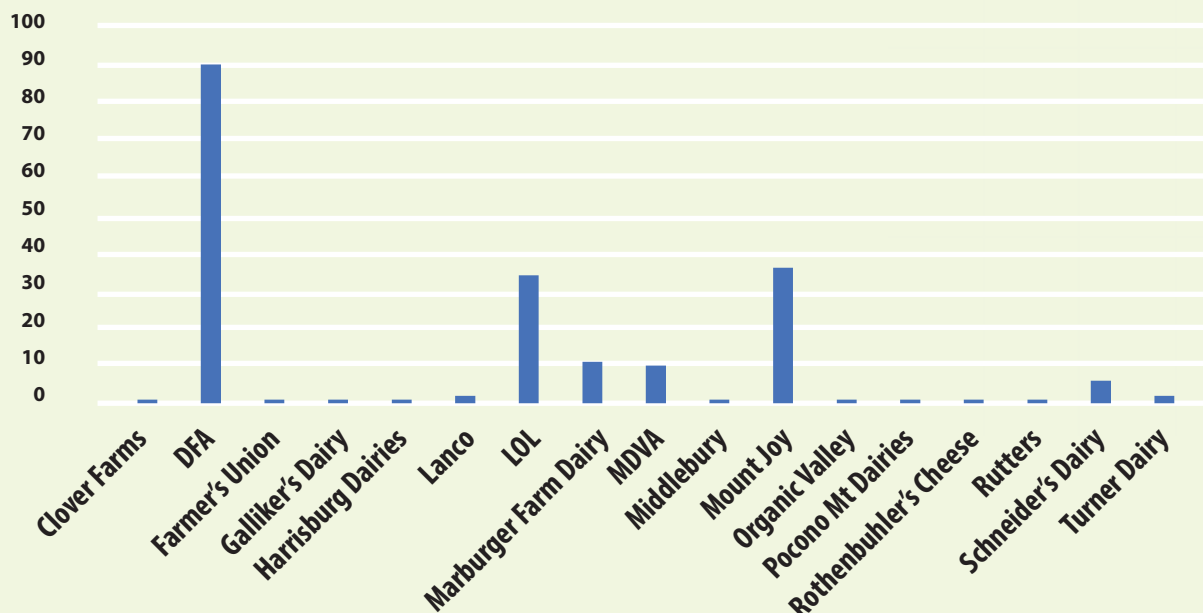


## Milk Reductions by Milk Handlers

Survey respondents were asked if their cooperative or milk handler requested them to reduce their milk supply, and if they had taken any measures to reduce milk production. Dairy farms representing 36 cooperatives or milk marketers completed this section of which 17 different milk handlers had, according to the survey participants, requested its members/customers to reduce milk production during the initial months of the COVID-19 pandemic. In total, 502 surveys indicated whether they were asked to reduce milk production. Of these, 202 dairies indicated that they were asked to reduce milk production. On average, the dairies responding to this question were asked to reduce production by 14%. The most common reduction percentage requested was 15%, with 130 surveys reporting this as the requested reduction amount. The range of reduction percentages reported included a minimum of 2% and a maximum of 50%. Five milk handlers accounted for 90% of the requested reductions reported.



### # Dairies Reporting Requested Milk Production Reductions by Milk Handler



# 2020 Pennsylvania Dairy Survey

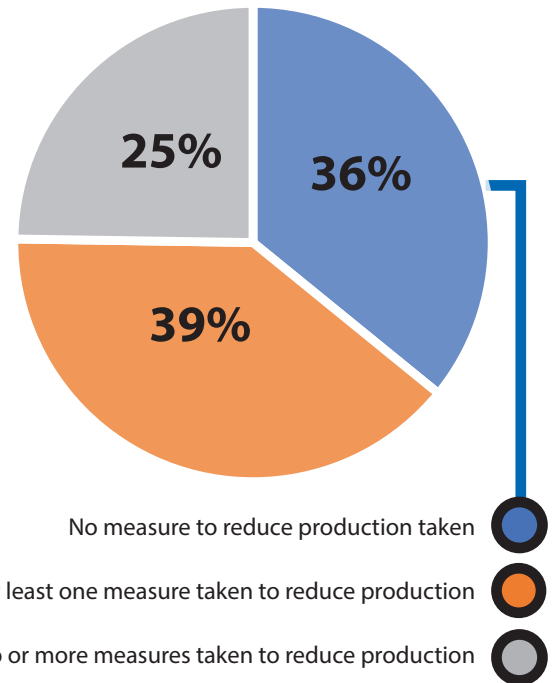
Over 300 survey participants answered if they had taken any measures to reduce production.

Three answers were available for respondents to choose from;

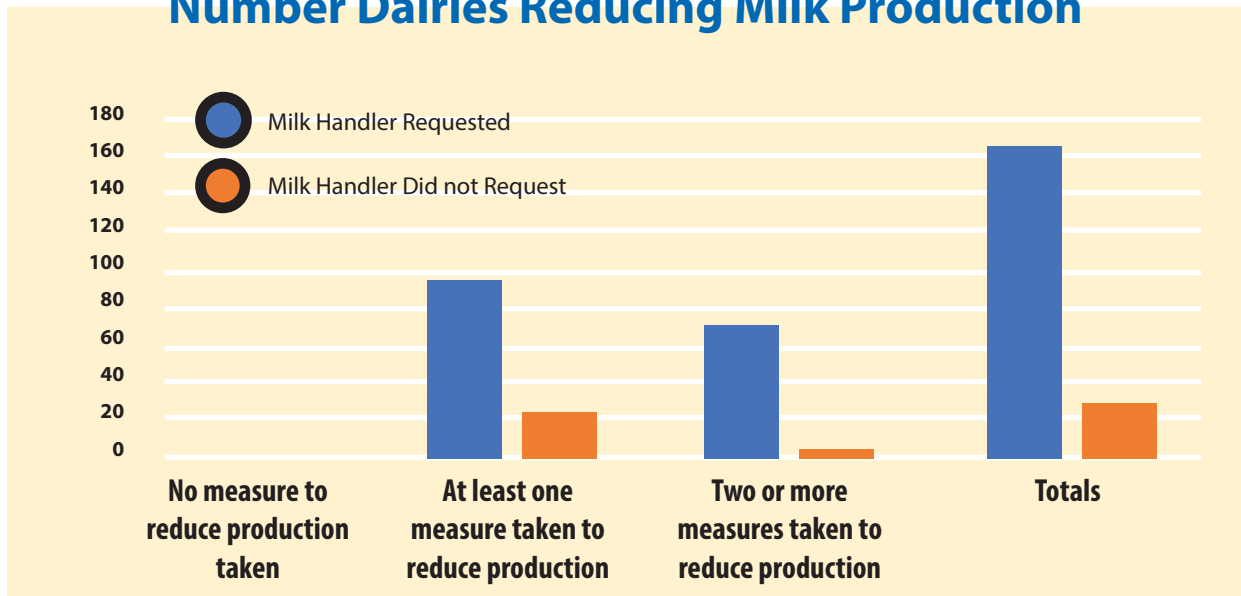
1. Not taken any measure,
2. Have taken at least one measure, and
3. Have taken two or more measures.

The highest percentage of respondents (39%) reported having taken at least one measure to reduce milk production, while 36% said they had not taken any measures, and 25% reported taking two or more measures to reduce milk production. If a survey respondent reported that their milk handler had requested a milk reduction, none refused to comply and agreed to reduce milk supply by taking one of more measures to accomplish this. Even though their milk handlers did not request a milk production reduction, 30 dairies reported taking one or more steps to reduce milk production anyway.

## Percent of Dairies Vs. Measures Taken to Reduce Milk Production



## Number Dairies Reducing Milk Production

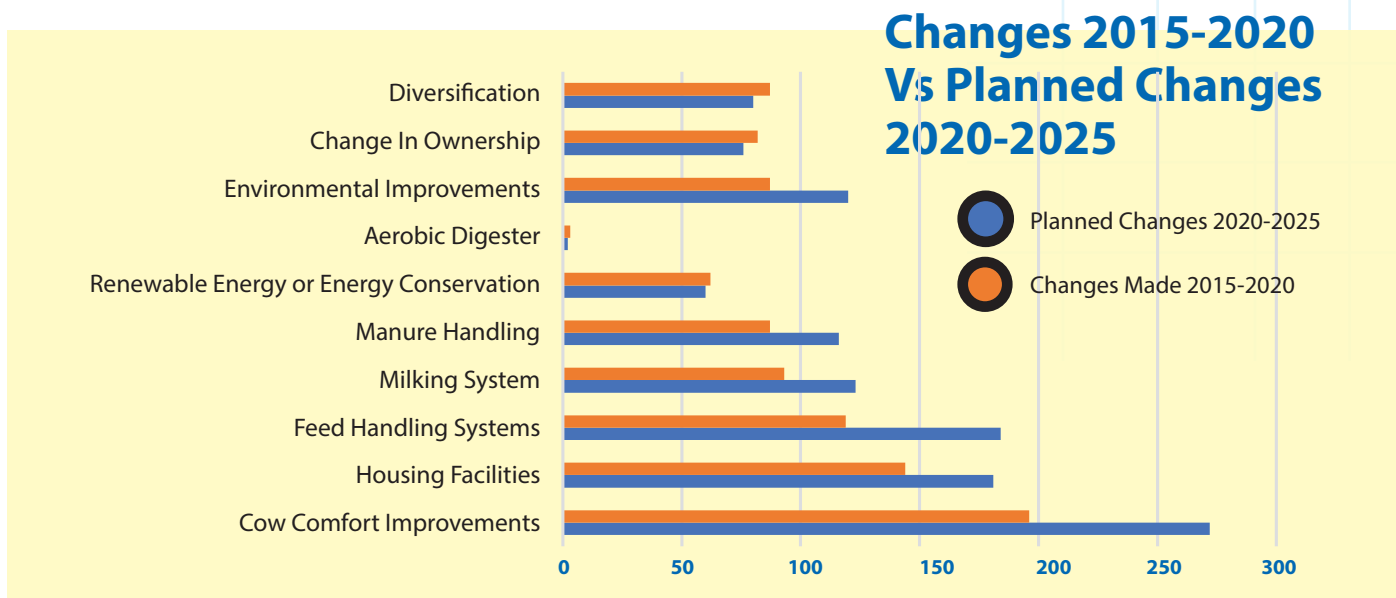


## Investments Made in the Last Five Years and Investments Planned for the Next Five Years

The next series of questions was intended to assess what improvements or investments were made in the last five years and if plans existed to further invest in or modifying dairies in the next five years. When asked if changes had been made over the last five years, 354 surveys indicated that an investment had been made in facility changes.

When asked what improvements had been made, the most common answer was cow comfort, with 272 dairies indicating that an investment had been made in this area. This certainly makes sense as cow comfort is commonly identified as a significant way to increase milk production. The next most common answers were investments in feed handling systems or storage facilities and heifer/cow housing facilities, with 184 and 181 surveys, respectively, reporting investments in these two areas. Another change that did not show up infrequently was a change in ownership or management. 12% of the primary operators indicated that they were 65 years or older. Therefore, it is not entirely surprising that 76 respondents indicated that there was a change in ownership or management over the last five years. Ownership and management changes were not separated. It is entirely possible that some of the changes were hiring of a herdsman or some other key position and not necessarily transferring of ownership. Eighty surveys indicated that they had diversified into other livestock, crops, or other products in the last five years. Diversifying can be an important risk management tool to some operations by spreading market risk across several revenue sources.

Several choices are related and, if combined, show that several improvements were made in this area. If the responses are combined for manure handling, renewable energy, digesters, and environmental improvements, 298 dairies reported making changes or investments in these related categories. The least common response, perhaps due to the amount of the investment required and the average size of dairies in Pennsylvania, was installation of a digester. Only two dairies responding to the survey indicated that they had installed a digester in the last five years.



# 2020 Pennsylvania Dairy Survey

The total number of changes or improvements made equals 1,214. With 588 active dairies completing the survey, on average, each dairy made 2.1 changes or investments between 2015 and 2020.

When asked if changes were planned for 2021 to 2025, responses almost mirrored the answers for changes made during the previous 5 years. The most common answer was planned cow comfort improvements (196), followed by housing improvements for heifers or cows (144), and feed handling systems or storage improvements (119).

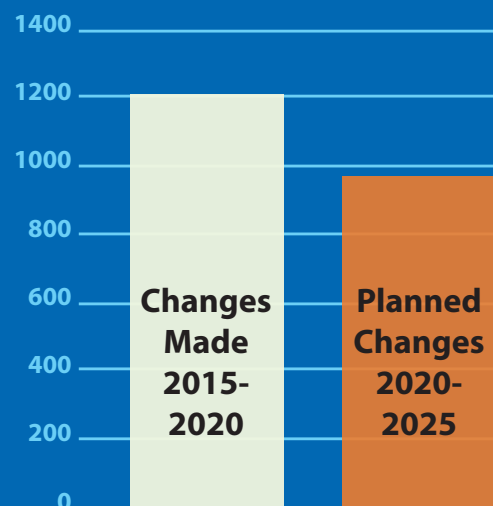
Change in ownership or management showed up frequently in plans for the next five years with 82 surveys reporting a change in this area. Age of Pennsylvania's dairy farmers may contribute to the number of respondents indicating such a change. Of the 588 active dairies completing the survey, 21% of farmers will be 65 or older in the next 5 years and are perhaps looking to transfer management or ownership to the next generation or another person or entity. Future expansion was not included as a question in this survey. Some of the changes planned in this area may be due to the need to hire additional employees for expansion purposes. Combining the environmental, energy, and conservation related responses, it shows that 239 dairies plan to invest in improvements in these areas.

If respondents answered "Yes" to the environmental improvement category, they were asked to provide what improvement was planned. The responses were grouped into three categories; 1. Waste Management, 2. Erosion Control, and 3. Other. Examples of answers in the other category include increased grazing utilization, increased pasture acres, storm water diversion and management, etcetera. Of the 87 surveys that answered that environmental improvements were planned, 56 provided the area in which the improvement was planned. Erosion control was the most frequently planned improvement with 27 surveys reporting plans to go to no-till planting, strip cropping, planting cover crops, and installing grass waterways just to name a few. Waste management improvements are considered for 21 dairies with plans to build waste storage ponds, manure incorporation into soil, and composting as examples. Eight dairies are planning to utilize more grazing or have other plans that do not fit into the other two categories.

Survey results show that several dairies plan on diversifying between 2021 and 2025. Eighty-seven dairies responded that diversification would be important to them in the future. When asked what percentage of their business would be diversified, the average reported by the 46 surveys including answers was 23%. In the next five years, these dairies plan to have nearly one quarter of their revenue generated by some other revenue source besides milk.

A total of 960 improvements are planned for 2021 through 2025 according to survey responses. This means that in addition to the 2.1 investments or improvements made over the last five years, each active dairy represented in the survey plans on making another 1.6 investments or improvements during the next five years.

## Total # Improvements/ Planned Improvements



## Use of Consultants, Risk Management, Conservation Practices

The next series of questions was asked to help understand the prevalence of using dairy financial and nutrition consultants, crop and milk price related risk management tools, human resource (HR) education, and certain conservation practices. It was not surprising to see that based on overall totals, most dairies represented by the survey used financial and nutrition consultants on a regular basis as well as having erosion control practices implemented to catch/divert run-off or protect streambanks, and no-till farming practices. However, by herd size, the larger dairies tended to utilize financial or nutrition consultants more than the smaller herd size categories. 36% of dairies in the <50 Cows category used financial consultants compared to 95% of 200+ Cows dairies. The trend was less pronounced for nutrition consultants, with 75% of the smallest dairies using a nutrition consultant compared to 97% of dairies in the largest category. Financial consultants have the expertise to help dairy operations be better positioned for success by providing owners or management teams a better understanding of true costs. Knowing actual costs allows farmers to more quickly adjust when challenging market conditions present themselves. A similar statement can be said for the use of nutrition consultants. Good nutrition consultants are trained to help maximize milk production with the feedstuffs available. Erosion control regulations and best management practices have been around for many years as have no-till farming practices. It is also worth noting that in some cases the use of erosion control or no-till is not applicable and may account for some of the lack of use in these two areas.

Given the average size of a Pennsylvania dairy and the number of employees per farm indicated by an earlier survey question, it is not surprising that most dairies have not had HR training. As dairies become larger, more employees are needed to complete daily chores. Therefore, there is a higher necessity for HR education.

The results showing the lack of use of crop insurance and milk price risk management tools, while not surprising, is concerning. Volatility in commodity markets and milk prices create extremely tight and sometimes negative margins. Using tools to mitigate the loss of revenue due to unforeseen market drops is becoming increasingly more important to ensure longevity in the dairy industry. Mother Nature and commodity markets cannot be controlled. Most dairies across Pennsylvania raise most of their forage, if not all. Many dairies use row crops as supplemental revenue or to use in feed rations. Crop insurance offers dairy farmers an opportunity to help protect crops against natural disasters and unforeseen drops in commodity prices. According to survey results, only 26% of dairies use crop insurance.

Milk price volatility in 2020 was perhaps the most volatile it has ever been since dairy products began trading on the futures market back in the 1930s. There are more options available now than ever to help mitigate milk price volatility. Unfortunately, dairy farmers in Pennsylvania do not take advantage of these tools as frequently as perhaps they should. Only 38% of the dairies responding to this question use milk price risk management.

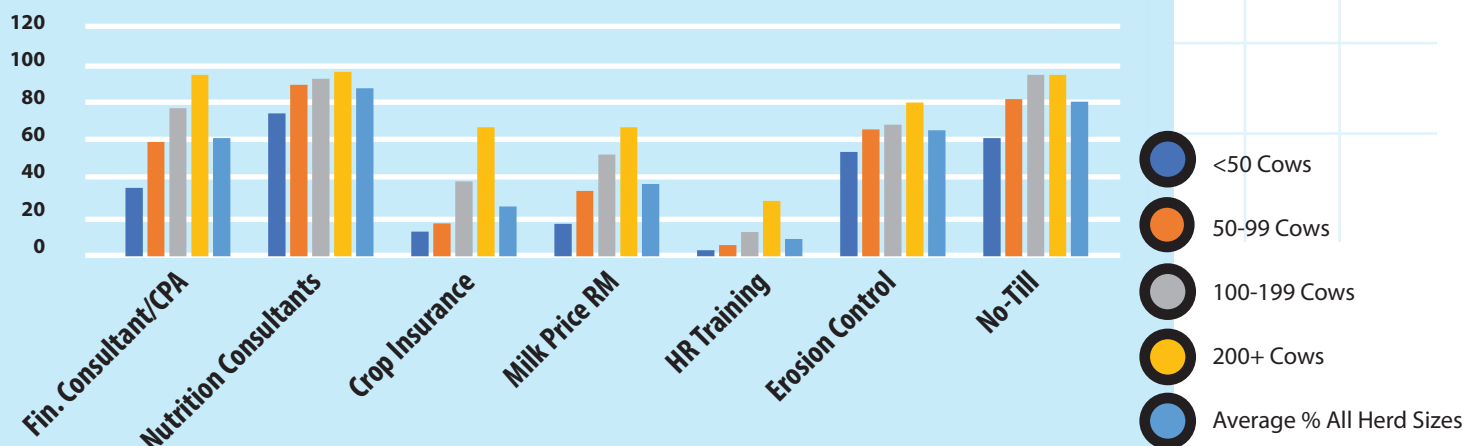
# 2020 Pennsylvania Dairy Survey

The national Crop Insurance program and some milk price risk management options are government programs. It is understood that a portion of the Pennsylvania dairy industry may have moral or religious reasons for not participating in government programs. However, the number of farms not using these tools are greater than just the population of dairy farms that have moral or religious constraints keeping them from participating. The Pennsylvania dairy industry needs to figure out the answer to why those who can use these programs opt not to participate.

Taking a deeper look into these questions by herd size reveals an interesting trend. As herd size increases, the larger farms seem to be more likely to use consultants, risk management, have HR education, and are more likely to use certain conservation practices. As previously stated, it makes sense that smaller farms have not had much training in human resources. There is less need for a small dairy that only uses family labor to have HR education than a 2,500-cow dairy with 30 employees. Only 3% of dairies with less than 50 cows has had any HR education compared to 29% for dairies with 200+ cows.

However, for the other tools or practices mentioned, it is not obvious why the same trend exists. It makes sense for any size operation to want to maximize milk production from a nutritional standpoint. It also makes sense to use financial consultants regardless of herd size. With less economies of scale, a smaller farm might be more susceptible to large milk price swings making it more important to use milk price risk management. Even when it comes to the two conservation practices that do not necessarily have anything to do with milk production on a dairy farm, larger farms tend to be more involved in these practices. Why is this? Is it that larger dairy farms have more resources, thus more access to better information? Do smaller dairy farmers lack the labor force that would free them up to pursue a better understanding of these options? Do smaller dairy farms lack the time to research and understand the benefits to these services? There are certainly numerous factors as to why this trend exists. Those involved in the Pennsylvania dairy industry should help answer these questions so that the Commonwealth can provide a healthy, profitable industry to all herd sizes.

## In the last five years, have you used/done any of the following:

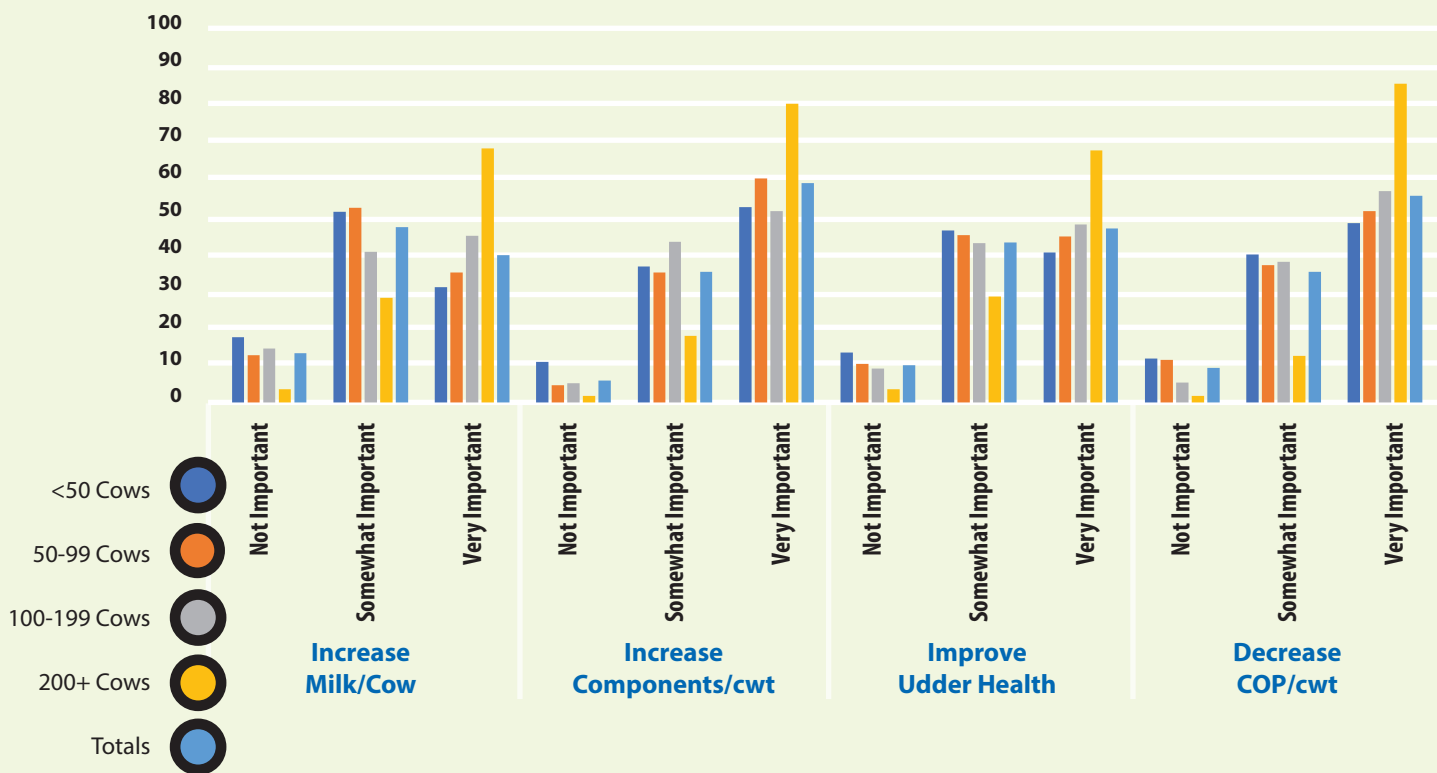


## How important are certain factors to performance in the next 3 -5 years?

The next survey question asked how important certain factors were to each dairy's performance for the next three to five years. Dairy farmers were asked to use a scale of one to three to rate the importance of each factor with 1 = Not Important, 2 = Somewhat Important, and 3 = Very Important. Eight different factors were provided to be ranked. According to the survey results, seven of the eight factors appear to be important to dairy farms over the next three to five years with 85% or greater of the respondents ranking these factors as somewhat important or very important. The factors affecting milk production all ranked high in importance. Increasing milk production per cow, increasing components, and improving udder health all ranked high with 87%, 95%, and 90%, respectively, of the surveys ranking them somewhat or very important.

All milk price and cost related factors ranked important as well. 91% of surveys ranked decreasing cost of production (COP) as somewhat or very important. The results of this question do not support the results of the earlier question asking if dairy farmers calculated COP. Only 29% answered that they calculated COP while the other 71% do not calculate COP. However, 450 of 496 surveys that ranked decreasing COP, ranked it somewhat or very important, 35% and 56% of the time, respectively. Considering both questions together, it suggests that farmers understand the importance of COP, but perhaps have never taken the time or do not know how to calculate their COP. The first step to analyzing whether COP can be decreased is knowing what it is currently.

### Degree of Importance Part 1

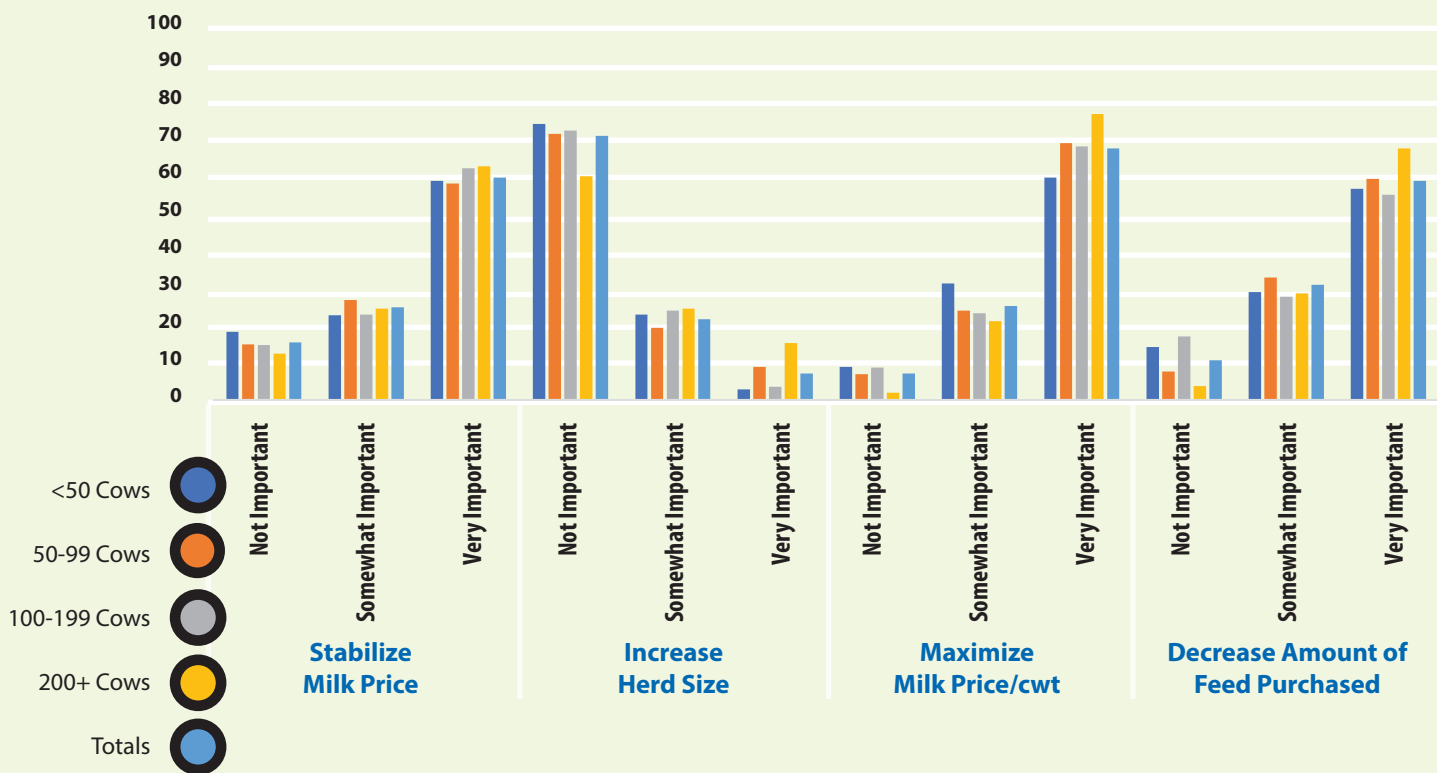


# 2020 Pennsylvania Dairy Survey

Answering after the milk price crash and subsequent rise in Class III caused by COVID-19, 85% of surveys recorded stabilizing milk price as somewhat or very important over the next three to five years (60% reported milk price stabilization as very important). Maximizing milk price was also highly important with 68% of surveys ranking it as very important and an additional 25% ranking it somewhat important. The last cost related factor ranked was decreasing the amount of feed purchases or maximizing homegrown feed production. 90% of surveys ranked decreasing purchased feed or maximizing homegrown feed as somewhat or very important. There are two main ways in which the amount of purchased feed can be decreased. The first way is to maximize homegrown feed by increasing yield per acre and the second way is to plant more acres of feed. When considering these two methods, the cost of purchasing/renting crop land or the cost of boosting yield per acre should be compared to the cost of purchased feed. Sometimes it may be more advantageous to continue to purchase feed rather than making huge monetary investments to grow additional feed.

The only factor that the majority of surveys indicated was not very important over the next three to five years was increasing herd size. 71% of surveys ranked increasing herd size as not important, while 22% ranked it as somewhat important, and 7% ranked it as very important. This result indicates that the majority of the state's dairy farms are not looking to expand in the next few years, or after multiple years of low milk prices, finances will not support an expansion. It is interesting to note that dairies in the 200+ category tended to rank the importance of expansion higher than the other herd sizes. Dairies in the largest herd size category ranked increasing herd size as somewhat important 25% of the time and very important 15%.

## Degree of Importance Part 2



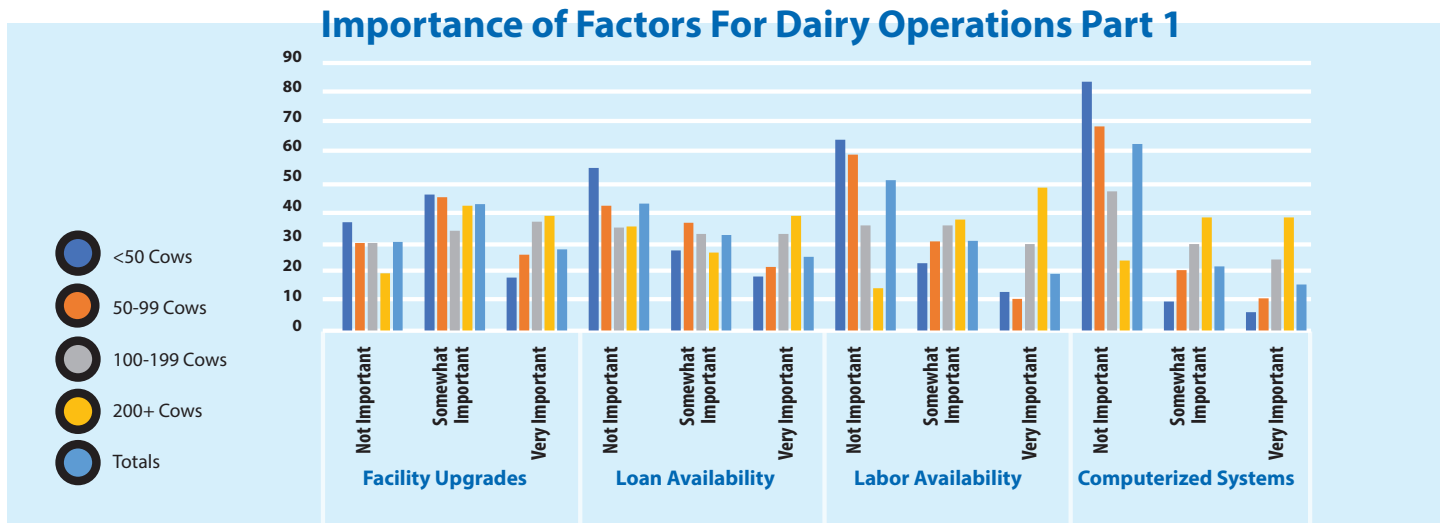


## Importance rating of factors needed for dairy operations

Survey participants were asked to rate their importance for facility upgrades, loan availability, labor availability, computerized systems, outside advisors, land availability, and milk hauling services needed for their operations. They were asked to use the same scale as described previously. Importance of the afore mentioned factors were mixed. However, in general, responses rated each factor as somewhat important or very important more often than rating them as not important. There are some interesting trends by herd size. The importance of labor availability and computerized systems were the only factors rated as not important more frequently than somewhat or very important.

Labor availability was ranked not important by 51% of the surveys. However, breaking it out by herd size shows that the <50 Cows and 50-99 Cows categories at 64% and 59%, respectively, were about 4.5 times more likely to rate labor as not important than the 200+ cow category at 14%. Small farms require less labor, making labor availability less important than it is to larger dairies. At 48%, dairies in the 200+ Cows category were four times more likely to rank labor availability as very important than the smaller dairies. Computerized systems followed a similar trend. Computerized systems for financial records, herd health records, or feed management software were ranked not important by 63% of the survey responses. However, at 84% and 69%, the two smaller-sized categories were about three times more likely to rank computerized systems as not important compared to the 200+ Cows category at 24%. Smaller dairies can certainly benefit from using computerized systems. However, many smaller dairies elect to keep all their records on paper. At 38%, 200+ Cows dairies were about six times more likely to rank computerized systems as very important compared to 6% for the <50 Cows category.

Facility upgrades importance ranked relatively high with 70% of the surveys ranking it as somewhat or very important. There may be a slight trend of larger dairies more likely ranking facility upgrades as very important but combining the somewhat and very important rankings show that there is not much difference between the different herd size categories. Loan availability was ranked as not important by 43% of the surveys.



# 2020 Pennsylvania Dairy Survey

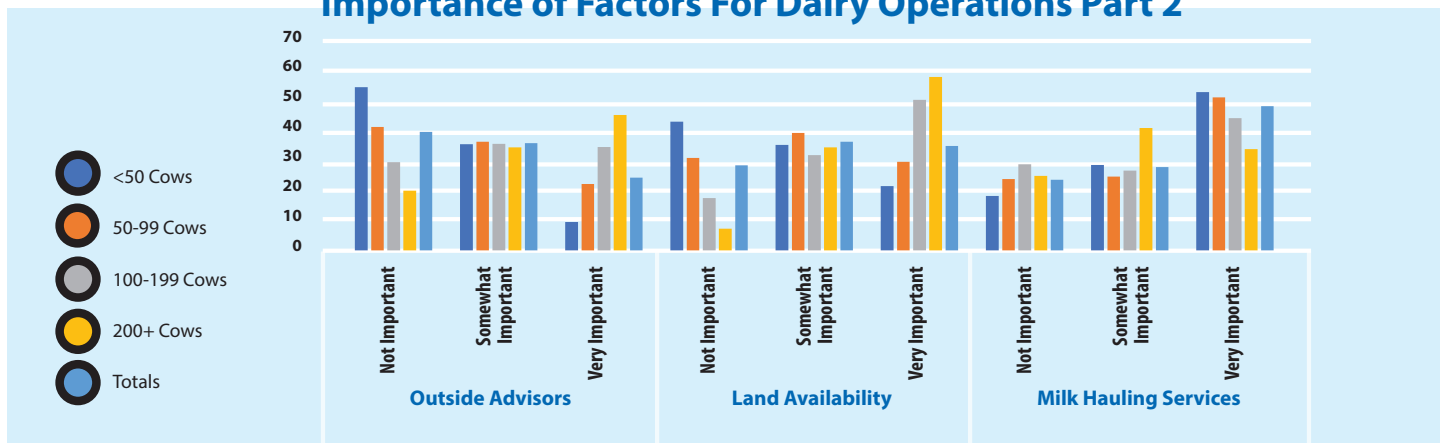
The frequency of ranking loan availability as not important tended to be more likely with the smaller herd size categories with 55% of <50 Cows ranking it as not important compared to 35% by 200+ Cows. At 39%, the 200+ Cows herd size was more than two times as likely to rank loan availability as very important compared to the <50 Cows category's 18%.

The use of or need for outside advisors like nutrition and financial consultants has been mentioned already. However, the ranking shows the importance of these advisors to the survey respondents. Combining the results of the somewhat and very important rankings show that 60% of dairies find the use of outside advisors important. It has already been reported that larger dairies tend to more frequently use outside advisors compared to smaller farms. The ranking results help to explain why 95% and 97% of 200+ Cows use financial and nutrition consultants, respectively, compared to 36% and 75% for dairies in the <50 Cows. The ranking results show that smaller dairies (<50 Cows) were nearly three times (55%) as likely to rank the use of outside advisors as not important compared to large dairies (200+ Cows, 20%). At 45%, larger dairies were 4.5 times more likely to rank advisors as very important compared to smaller dairies (10%). According to these combined results, larger dairies tend to use advisors more often because they have a higher importance.

The distribution of importance ranking of land availability was relatively even, with 29% ranking it as not important, 36% ranking it as somewhat important, and 35% ranking it as very important. Taking a closer look at the data on a herd size basis, shows that larger dairies tend to rank land availability importance higher than smaller dairies. This certainly makes sense thinking about it from a feed needs and nutrient management perspective. The more cows milked requires more acres for feed and more acres to land apply manure. At 58%, 200+ Cows ranked land availability as very important compared the 22% for <50 Cows. Whereas, at 55%, the survey results of the smaller dairies ranked land availability as not important compared to only 7% of larger dairies viewing land availability as not important.

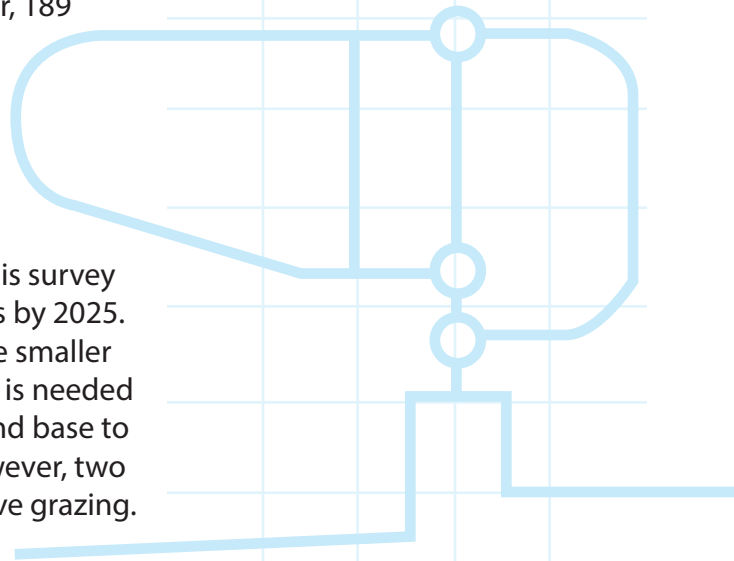
The last importance factor ranked was milk hauling services. This was the only factor on the list that tended to be more important to smaller farms, which is intriguing. The importance of milk hauling services increased as cow number decreased. 53% of dairies with <50 cows ranked it as very important compared to only 34% of dairies with 200+ cows. Why would this be? Perhaps it is partly because the freight charge for picking up smaller volumes of milk at small farms, on a percentage basis, is higher than picking up a full load at a large dairy. Overall, 76% of all dairies ranked milk hauling services as somewhat or very important.

## Importance of Factors For Dairy Operations Part 2

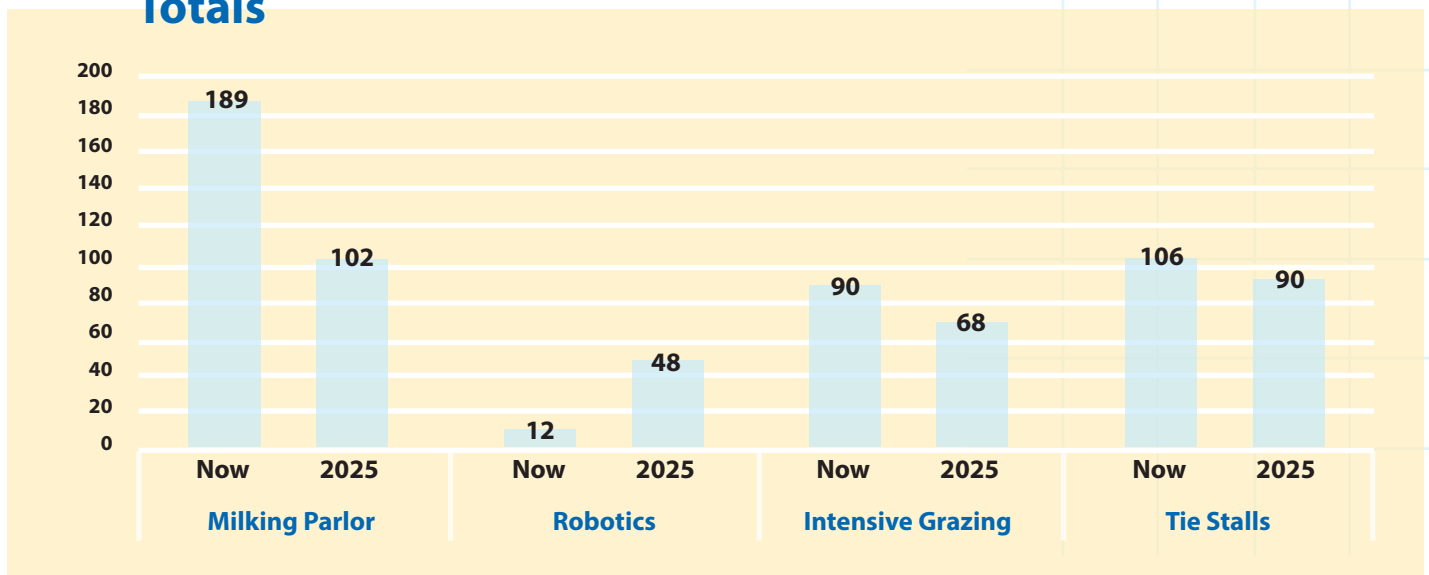


## Management practices currently used or expecting to use by 2025

Dairy farmers were asked to indicate if they currently milk in a parlor, use robotics, practice intensive grazing, or house cows in Tie stalls. They were also asked to indicate if they expect to be using them in 2025. Not all respondents completed this question. However, 189 said they currently milk cows in a parlor with an additional 102 expecting to be using a milking parlor by 2025. Only 12 respondents currently use robotics, but as many as 48 dairies plan to invest in robots by 2025. Intensive grazing is currently implemented on 90 dairies with 68 planning on continuing to implement or start intensive grazing by 2025. Tie stalls are currently used on 106 dairies represented by this survey with another 90 expected to continue or start using tie stalls by 2025. There were some differences in responses by herd size. More smaller dairies utilize intensive grazing than larger dairies. Less land is needed to graze on smaller dairies so the feasibility of having the land base to graze cows is much more likely than with larger dairies. However, two dairies in the 200+ Cows category currently practice intensive grazing.

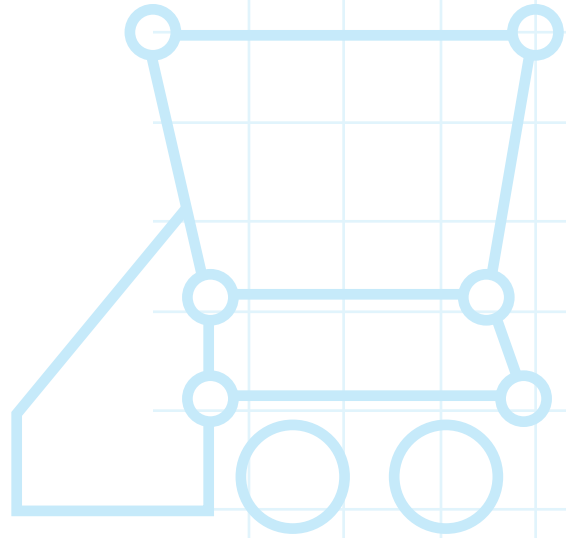


### Totals

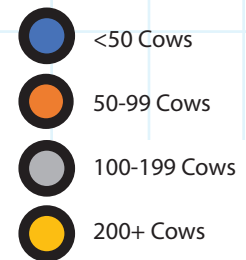
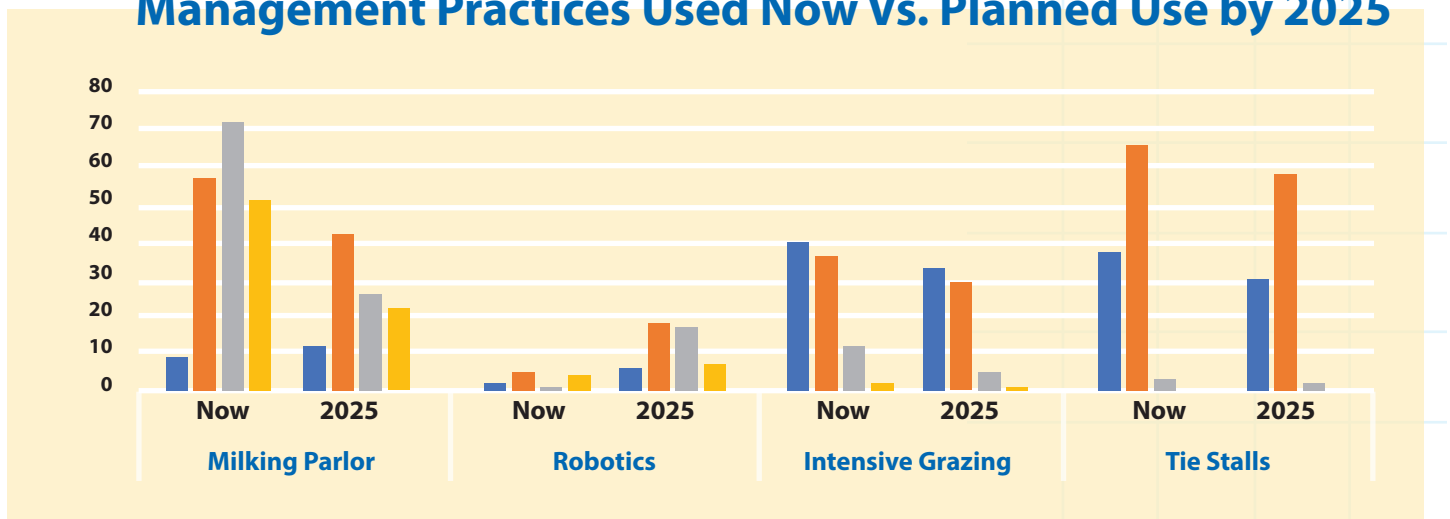


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More dairies in the middle herd size categories plan on investing in robots within the next five years. Of the 48 dairies that plan to be using robots in the next 5 years, 35 are dairies that encompass the 50 to 199 herd size categories. These dairies are the right size to be able to invest in two to four robots and be able to fully utilize each robot. Robots are expensive, therefore, less feasible for a large dairy to justify that large of an investment to be able to milk all their cows. A smaller dairy may not be able to justify one robot without enough cows to maximize throughput. Only 5 dairies currently house or plan to house cows in tie stalls by 2025 in the 100-199 cow size category. No dairies with 200+ Cows currently house or plan to house cows in tie stalls. 103 dairies in the <50 Cows and 100-199 Cows categories use tie stalls, and 88 dairies expect to be using tie stalls by 2025.



## Management Practices Used Now Vs. Planned Use by 2025



## Cooperative or Milk Handler/Buyer Trust

Milk prices were relatively low from 2016 through 2018. 2019 showed decent gains during the last half of the year making 2019, overall, a decent year. Prior to the COVID-19 pandemic, 2020 was expected to build on 2019's gains and be the best year since 2014. Of course, milk prices in 2020 have been extremely volatile, setting multi-year lows for Class III and IV milk prices followed by multi-year highs for Class III milk price. During low milk price years and unexpected circumstances, it sometimes seems that negativity prevails and the opinion of farmers towards their milk handlers deteriorates.

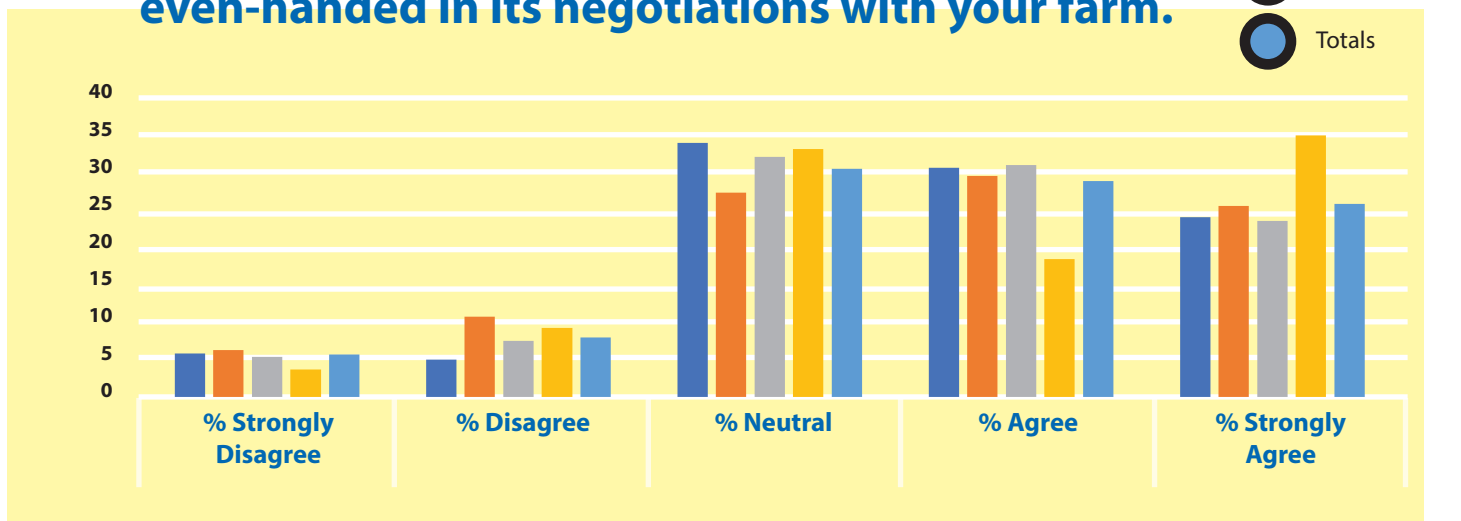
To address the opinion of dairy producers towards their milk handlers, the last section of the survey asked participants to identify how strongly they agree or disagree with the following statements;

1. This cooperative or milk handler has always been even-handed in its negotiations with your farm,
2. You trust that this cooperative or milk handler treats you fairly, and
3. You are concerned that this cooperative or milk handler may use opportunities that arise to profit at your expense.

Participants were asked to use a scale from 1 to 5 where 1 is Strongly disagree and 5 is strongly agree.

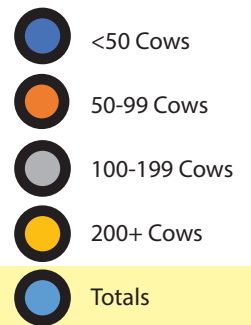
Survey results show that dairy farmers' opinion of their cooperatives or milk handlers seems to be positive, overall. No obvious trends by herd size existed in any of the answers of the three statements. When asked if their cooperative or milk handler had always been even-handed in its negotiation, 55% of the surveys showed that they either agreed or strongly agreed with that statement, while 31% were neutral. Only 14% of the surveys indicated that they disagreed or strongly disagreed that their milk handler had always been even-handed in negotiations.

### This cooperative or milk handler has always been even-handed in its negotiations with your farm.

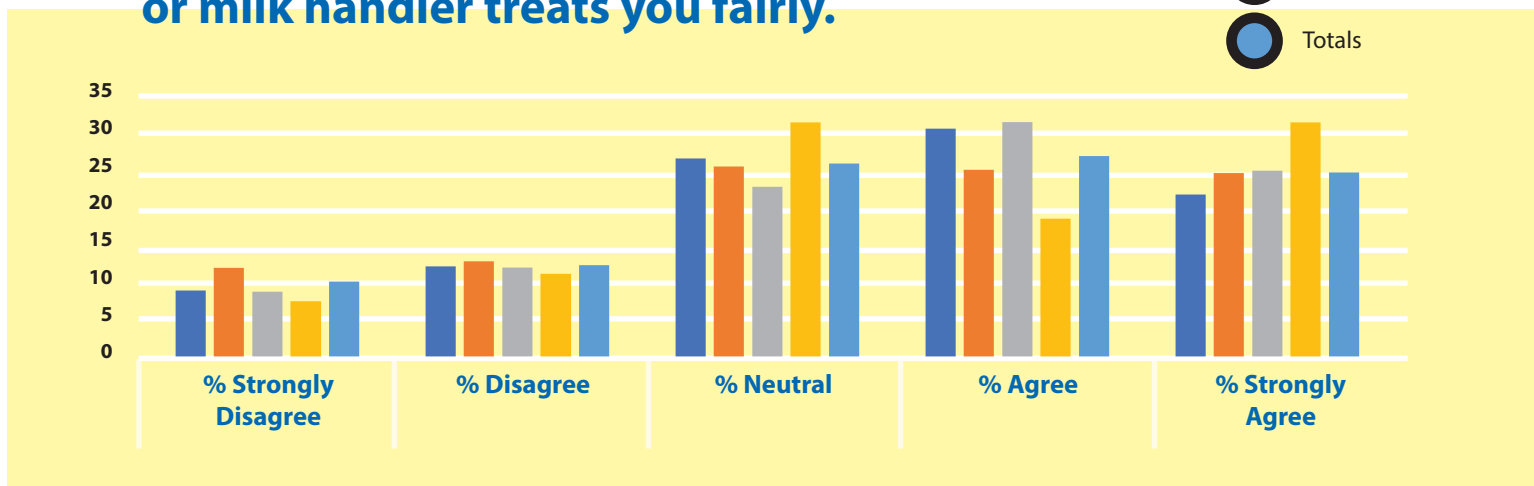


# 2020 Pennsylvania Dairy Survey

When asked if cooperatives or milk handlers were trusted to treat dairy farmers fairly, the responses were not as positive as the previous statement but still positive overall. 52% of the surveys either agreed or strongly agreed with this statement, while 26% were neutral. Slightly more dairy farmers did not trust their cooperative or milk handler to treat them fairly, with 22% disagreeing or strongly disagreeing with the second statement.

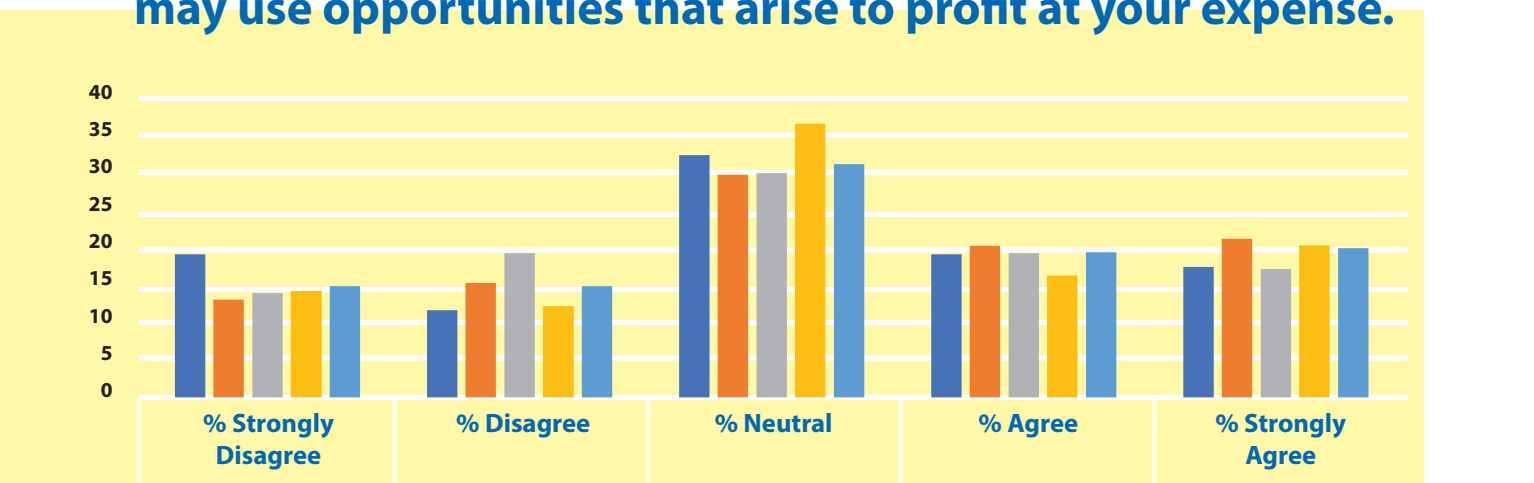


## You trust that this cooperative or milk handler treats you fairly.



The third statement received the lowest marks. When asked if they were concerned about cooperatives or milk handlers making a profit at their expense, 39% of the survey participants reported that they agreed or strongly agreed with that statement and 31% responded neutral. Only 30% of survey participants were not concerned with their milk buyer profiting at their expense by answering that they disagreed or strongly disagreed with the third statement. Even though the overall opinion of dairy farmers is to trust their cooperative or milk marketer, there is a population of farmers that do have trust issues with their milk buyer. The percentage is high enough that these results should not be ignored, and the opportunity exists for milk buyers to improve farmer member/customer relations.

## You are concerned that this cooperative or milk handler may use opportunities that arise to profit at your expense.



## Closing

Surveys were accepted through July of 2020, putting the deadline prior to the second outbreak of the COVID-19 pandemic. Survey responses are only indicative of the effects of the pandemic on dairy farmers during that period. At the time the survey was sent out, the fear was present that there would be a second wave of the COVID-19 pandemic, but it had not been realized yet. As 2020 progressed after the timing of the survey, market disruptions continued, and milk price volatility remained high. A second round of CFAP payments was announced and implemented and became an even more important source of income for those who chose to receive the payments. Also, negative producer price differentials (PPDs) began in June and stayed negative most of the remainder of the year. Perhaps some of the survey answers would have been different if the timing of the survey were delayed. However, results of the survey are relevant and can be used by the dairy industry to identify key areas to be addressed.

Some of the key findings that should be addressed as a collective industry or by cooperative/milk handlers are as follows;

1. There seemed to be some confusion surrounding the National FARM Program. Of cooperatives and milk handlers known to require their members/suppliers to enroll in FARM, 15% of their members reported not participating in FARM.
2. The majority of survey respondents do not calculate a cost of production for their operation, with over 70% of respondents reporting they do not calculate their COP. Knowing an accurate COP is important to understanding dairy finances and is the key to success in participating in risk management.
3. During the summer months, not many dairies reported having or knowing of positive COVID-19 cases at their operations. It would be interesting to know if that trend changed over the course of the pandemic.
4. There has been a significant amount of investment back into Pennsylvania dairy operations in the last five years, with additional investments planned for the next five years.
5. Importance of the use of outside advisors and consultants tends to be more important to larger dairies than smaller dairies.
6. Although overall trust in cooperatives and milk marketers is positive, there exists some level of distrust of these entities by some dairy farmers. It would be mutually beneficial for these companies and dairy farmers to identify and resolve the issues causing discord.

