

Study to Support Growth and Competitiveness of the Pennsylvania Dairy Industry

Combined Final Report

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Executive Summary

This study was begun early in 2017 after discussions with leadership of the Pennsylvania Department of Agriculture and the Center for Dairy Excellence¹. The overall objective was to assess the factors that limit growth and competitiveness of Pennsylvania's dairy industry and to suggest actions by industry and state government that could better support growth. Phase I of the study reviewed existing data to assess historical performance of the state's industry, often with comparisons to other key dairy states with similar agronomic resources (Michigan, New York, and Wisconsin). Subsequent phases assessed the potential for additional dairy processing capacity, compared farm-level financial performance in Pennsylvania to other states, summarized stakeholder opinions about what limits growth and what might be done to better support it, assessed the economic impact of the state's dairy industry, evaluated the potential of the Port of Philadelphia to support dairy exports from Pennsylvania, projected prices, farm incomes and exports through 2025 to understand potential market opportunities and the context for future growth, and evaluated the impacts of the Pennsylvania Milk Marketing Board on milk sales and fluid milk processing in the state.

Below is a summary of key findings from each of the study components.

Phase I Diagnostic Study

- Milk production in Pennsylvania has grown little in the past decade, with slower growth in milk per cow than in comparison states with similar agronomic resources (NY, MI, WI). The southeastern and central regions of the state have seen growth in milk production since 2007;
- A survey of nearly 1000 dairy producers by the Center for Dairy Excellence indicated that 14% expect to exit the industry in the next five years, with a 18% overall reduction in cow numbers based on current intentions. Surveyed producers placed less emphasis on increasing herd size or milk per cow than on obtaining higher and more stable prices to improve future business performance;
- Available published data on dairy processing in Pennsylvania are limited and do not allow a comprehensive assessment of state-level processing performance. NDM and butter plants

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processed volumes above the overall US average in 2015, but volumes per plant for many products are small compared to the overall US average for other products.

Incentives for Additional Processing Capacity

- Substantial incentives appear to exist for additional processing capacity in Pennsylvania – especially for “other” cheese (non-American types, including Italian and specialty cheese) plants—based on their potential to reduce overall supply chain costs given 2016 milk production and dairy product demands;
- Significant economic benefits would accrue to the state because additional processing capacity would markedly increase processing of milk in Pennsylvania that is now shipped out-of-state;
- Investment in two “other” cheese (non-American types, including Italian and specialty cheese) plants processing volumes of 4 million lbs of milk per day in the areas near State College and Reading would result in the largest reduction in supply chain costs, and thus indicate the strongest incentives for new processing capacity;

Comparative Farm Financial Performance

- Pennsylvania farms tended to have lower Return on Assets, higher Debt-to-Asset Ratios and lower Current Ratios than analyzed farms in other states. These differences exist both for overall average values during 2011 to 2016 and many of the individual years, and when considering farm size and milk per cow;
- Overall, these measures suggest that larger and more productive Pennsylvania farms may be less resilient in the face of economic stress than similar types of farms in other states;
- The analysis does not directly indicate the underlying causes of these differences and their practical management or programmatic implications. Additional analyses of data for a broader range of farms—facilitated by a collaborative multi-state data collection effort is therefore suggested to address these limitations.

Stakeholder Comments and Comparative Organizational Support for the Pennsylvania Dairy Industry

- Stakeholders have diverse views regarding the drivers of dairy industry growth in Pennsylvania, among them market access, regulation, farm structure, access to production resources, and professional development;
- The key data requirements include a set of broadly accessible information about farm financial performance and processing capacity, although future market opportunities and the benefits of existing programs were also mentioned;
- Pennsylvania has a diversity of organizations that provide support for dairy farms and dairy processors. However, our overview suggests that there are organizations and state-level programs in New York and Wisconsin that do not exist in Pennsylvania, and that might usefully be considered in greater detail to assess their effectiveness and appropriateness.

Economic Impacts of the Pennsylvania Dairy Industry

- The state's dairy industry is a major contributor to overall economic activity, generating an estimated 52,000 jobs and \$14.7 billion in economic activity in 2015;
- Both the farm and processing sectors are important contributors to employment and income, with farms contributing about 46% of dairy-industry employment and 36% of the total economic activity generated by the Pennsylvania dairy industry.
- Economic multiplier values for dairy farm activity range from near 2 to 3, which means that in addition to direct economic activity, dairy farms generate substantial additional jobs and income. Multiplier values are larger for dairy processing activity, ranging from near 2 to more than 5;

Export Potential Through the Port of Philadelphia

- *PhilaPort* appears to have the capabilities, capacity and relationships with relevant shippers (dairy product exporters) and service providers (such as steamship lines) to support substantial growth in dairy product exports. This capability will be enhanced further by expansions funded by state government and currently under implementation;
- Despite extensive capabilities and historical product and market diversity, the share of US dairy exports departing from the Philadelphia Port District has been small—less than 1% on a value basis during 2007 to 2016. They comprise only about 6% of exports from mid-Atlantic ports (New York, Norfolk, Baltimore and Washington, DC);
- Projections of Prices, Farm Profitability and US Dairy Product Exports for 2018 to 2025: Reallocation of 2016 dairy product exports to *PhilaPort* rather than other mid-Atlantic ports would increase farm-level milk values, reduce the costs of milk assembly to processing plants, and reduce product distribution costs. The total net benefit is estimated to be about \$1.8 million per year, excluding economic multiplier impacts. This net benefit is about \$0.02/cwt on all milk produced in Pennsylvania.

Projections of Prices, Farm Profitability and US Dairy Product Exports for 2018 to 2025

- Milk and dairy product prices are expected to have markedly higher average values during 2018 to 2025 than during 2015 to 2017;
- Higher average milk prices, combined with projected relatively stable feed costs and growth in average cows per farm will result in higher levels of average profitability as measured by Net Farm Operating Income (NFOI), and this is true for all four of the farm sizes analyzed;
- Despite overall growth in the value of US dairy product exports, products for which *PhilaPort* has larger export market shares among Northeast ports (for example, ice cream) are not indicated to provide major growth opportunities.

Impacts of the Pennsylvania Milk Marketing Board on Fluid Milk Retail Prices and Processing Volumes

- We find no definitive evidence that suggests that price regulation under the PMMB is a major cause of declining fluid milk sales or decisions about the location of fluid milk

processing, and thus, no evidence that major modifications to the PMMB would result in substantive improvement in sales of fluid milk or differences in processing location for same;

- Price enhancement due to the PMMB does not appear to be a major factor in the observed reduction of fluid milk sales in recent years. Our estimates suggest that the impact of retail pricing regulation under the PMMB at most accounts for less than one-fifth of the decline in fluid milk sales observed in the past five years. Key Points and Recommendations
- The volume of Pennsylvania farm milk priced by the PMMB has declined from 2007 to 2016, but these declines are largely in line with declines in fluid milk sales reported by the Northeast and Mideast Federal Milk Marketing Orders and for the US as a whole, which suggests that factors other than price regulation under the PMMB are more important drivers of the observed reductions in fluid milk sales;

Key Recommendations

- Growth and competitiveness of Pennsylvania's dairy industry is likely not constrained by agronomic resources, access to markets, support organizations or (before the last couple of years) processing capacity. Rather, the key constraints appear to relate to farm structure (size and interest of farmers in growing and(or) improving productivity of their farms);
- Opportunities to support improved growth and competitiveness of the Pennsylvania industry arise through additional resources for farm management education, collection and dissemination of information relevant for decisionmakers, improving awareness of supporting resources and continuing to highlight the opportunities for profitable investment in additional dairy processing facilities;
- Organize a series of strategic planning sessions with key industry stakeholders to develop a set of joint goals and suggested actions. Although strategic planning does not obligate key actors, it can be useful as a means of envisioning the actions required for enhanced growth and competitiveness and provide a framework for interpretation of available data;
- We recommend evaluation of existing demand-related programs and the assessment of potential for value-added and branded dairy processing investments that may leverage existing farm structure.