

Study to Support Growth and Competitiveness of the Pennsylvania Dairy Industry: Key Points and Recommendations

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This study has covered a large number of elements, including farm-level and processing-level performance, the economic incentives for investments in processing capacity, economic impacts of the state's dairy industry, the capacity of *PhilaPort* to support export market development and impacts of the PMMB. Summaries have been provided for each of these individual study elements, so we focus here instead on drawing upon those studies to assess potential constraints to growth and competitiveness and recommended actions to address them.

What Constrains Growth of Pennsylvania's Dairy Industry?

As noted in the Phase I report, growth in milk production has been limited for the past 15 years and milk per cow growth has been slower than in comparison states. Available data also suggest that growth in the volumes processed of many dairy products have also not grown as rapidly as those in comparison states. Although the available information does not allow a definitive determination of why growth has been slower than in other states with similar agronomic resources, we believe that a number of factors are NOT major constraints to growth. It is relevant to consider both factors related to supply and demand of milk and dairy products. On the supply side, these include the basic nature of agronomic resources (including soils and climate), the availability of inputs (including agricultural credit and hired labor), supportive—if potentially improvable—educational and advising programs (such as PSU extension programs and the Center for Dairy Excellence) and regulation (both environmental and pricing regulation under the PMMB²). Our view of the impact of processing capacity on growth is somewhat more nuanced, in part because major investments in processing in recent years typically are made through collaboration between processors and milk suppliers, with a view to developing a dedicated milk supply. Capacity has clearly been a constraint in the past few years and is likely to be more important going forward absent additional investment. On the demand side, the proximity of Pennsylvania milk production to growing major Northeast markets and the potential for milk shipments to deficit regions to the south both suggest that growth in demand that could be served by Pennsylvania has also not been a substantive constraint to growth. However, the decline in fluid milk sales suggests that the markets to be served have evolved and will likely continue to do so. As a reflection of demand, supply and transportation costs, Pennsylvania all-milk prices have been higher on average than for the US as a whole, by \$1.57/cwt from 2000 to 2017 although reduced somewhat to \$1.29/cwt during the five years ending December 2017.

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² Although permitting for farm expansions was frequently mentioned by stakeholders as a factor that should be changed and we did not examine the farm-level costs of alternative permitting arrangements, it is our assessment that this has not been a major impediment to growth during the past 15 years, although tightened environmental standards in the Chesapeake Bay watershed may be more important in the future. The PMMB probably supports farm-level growth because it enhances returns to producers.

Our assessment is that one likely constraint to growth during the past 15 years has been farm structure—the size and number of farms—interacting with incentives to invest in new processing capacity. As noted in the Phase I report, the average size of farms in PA was considerably below that in comparison states. Unlike those states, the largest total number of cows was owned by farms with 50 to 99 cows rather than farms with more than 500 cows. Farm structure implies a number of potentially important characteristics that affect competitiveness and the potential for growth. Smaller average farm sizes tend to be associated with higher costs of production (there are economies of scale in production), lower profitability (observed to some extent in our comparative assessment of farm financial performance), access to inputs (including credit and specialized management advice), and higher costs of milk hauling (for the same distance). These characteristics can reduce both the interest in and ability for growth. However, we do NOT mean to imply that big farms in and of themselves are the main pathway to dairy industry growth. We firmly believe that “Bigger is not always better, but better *might* imply bigger”. That is, better managed farms—of all sizes—can support farm growth if that is otherwise aligned with individual farm manager objectives.

Another potential constraint relates to the perspective of producers regarding the desirability of farm growth. In the Phase I report, we reported survey results from CDE indicating that a) many farms intend to exit in the next five years and b) increasing both milk per cow and farm size were not considered important to improvement of farm business performance during the next five years. A number of stakeholder comments indicated that greater focus on improving farm business management would be appropriate.

Together, smaller average farm sizes (and a limited number of large farms that serve as potential examples to others) and less interest in growth appear to be key factors that have resulted in slower growth in Pennsylvania milk production, given the absence of other major constraints. This also affects the desirability of making processing investments in Pennsylvania, given the emphasis on arranging a dedicated milk supply to support utilization of new capacity. Growth of milk production in Michigan has proceeded somewhat independently of capacity expansion, which is one reason that dairy cooperatives in that state are actively exploring investments in processing capacity (and shipping milk to the Northeast and Wisconsin). New York has seen new plant capacity, particularly for Greek yogurt. The coordination of milk production and capacity growth is thus an important element of a successful growth strategy.

What Can Be Done to Support Growth and Competitiveness of Pennsylvania's Dairy Industry?

Given the above, we see a number of potential actions that can support greater growth and competitiveness. These include a) increasing support for improved dairy farm management education, b) collection and dissemination of information relevant for decision making by farms, processors and supporting industries, c) increasing awareness and use of the resources to support improved management and expansion or diversification (such as economic development funds), d) evaluation of the effectiveness of existing demand-related programs such as PA Preferred and spending of dairy checkoff funds, e) further exploration of opportunities to expand value-added dairy processing (and branding) and f) continued efforts to highlight the benefits of processing investment and unique resources such as *PhilaPort*. These actions can be supported by the Pennsylvania Department of Agriculture (probably at minimal cost) but would benefit from coordinated actions by other key industry stakeholders—cooperatives, dairy producer associations, dairy processor associations, agricultural input suppliers (including credit), consultants, and other state-related organizations (PSU, CDE).

Expected improvements in farm-level profitability after 2018 will likely help to facilitate interest and implementation.

It is also relevant to discuss the absence of what might be called “direct support” programs to increase dairy farm revenues or farm milk prices in our recommendations. First, we believe in a global marketplace for dairy, the potential effectiveness of such state-level programs would be limited. The PMMB provides support for the state’s dairy farmers, but this support is probably not large enough to be a key factor in farm growth over time. Second, most programs in this vein would be costly to consumers, taxpayers or both, and thus appear to have limited political prospects. Finally, we believe that support for improved decision making by key dairy stakeholders is the key to sustained improvement and growth.

Increased Support for Improved Dairy Farm Management Education

Although a number of existing organizations support dairy farm management, we believe that additional support would be appropriate. This includes:

- Facilitating the participation of Pennsylvania dairy farms in the multi-state *FarmBench* program that would provide relevant management benchmarks to participants and aggregated performance summaries to industry stakeholders. This would in part address the lack of information on farm performance mentioned in Phase I and the study on farm financial performance, and can identify priority actions for improvement for individual farms and more generally;
- Formation of groups of participants in educational working groups (similar to the “Top Dairies” invitational program implemented early in the 2000s) to enhance professionalism of dairy managers and generate enthusiasm for improved management decision making. This can complement existing programs with similar objectives.
- Support for an additional farm business management professional to coordinate the *FarmBench* and *Top Dairies* efforts and undertake appropriate applied research and outreach. Preferably this position would be filled by an individual trained to the PhD level and specializing in farm management (although the position would not need to be located at an academic institution);
- Promote improved coordination in farm management educational efforts among key current organizations (CDE, PSU Dairy Team, and producer organizations such as PDMP), with a joint review of current educational programs and their target audiences;

Collection and Dissemination of Information

Lack of information on key performance metrics for the state’s dairy farms and processing facilities appears to be an impediment to more informed decision making. Thus, we recommend:

- Farm-level data collection via the *FarmBench* and *Top Dairies* educational programs and its analysis and dissemination on a regular basis to industry stakeholders;
- Processing sector data collection, through enhanced coordination with the state’s NASS organization and independent surveys (similar to that attempted for this study, for which responses from Pennsylvania plants was limited), perhaps including processing costs, processing volumes and expansion plans, also analyzed and disseminated (on an aggregated basis, no individual firm data) in a timely way. It is possible to envision the formation of multi-state benchmarking groups;

- Review the currently available data from organizations collecting farm- and processor-level data, to promote improved data sharing and coordination in data analysis and dissemination;
- Organize a series of strategic planning sessions with key industry stakeholders to develop a set of joint goals and suggested actions. We are mindful that strategic planning must account for the independent nature of involved organizations (development of a plan *per se* does not obligate them to actions) but 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;

Increasing Awareness and Use of Support Resources

The state already provides many supporting services that can enhance dairy growth and competitiveness but may benefit from enhanced information about the extent of use of these services and communication of their availability to industry stakeholders, as is undertaken in comparison states. This could include:

- Better promote available resources through centralized clearinghouse online and through social media;
- Further documentation of the uses and potential of the state's economic development programs to support investment in dairy farms and processing facilities;

Evaluation of Effectiveness of Existing Demand-Related Programs

Although not reviewed in detail by this project, it seems appropriate to undertake a review of the effectiveness of demand-related programs, including the *PA Preferred* program and the spending of dairy checkoff dollars. Such an assessment would either indicate that current programs are having the desired effect or may indicate opportunities for enhanced effectiveness. The use of dairy checkoff funds might be linked to development of smaller-scale value added (branded) dairy processing business, which we believe should be further explored (see the next point);

Further Exploration of Value-Added and Branding Opportunities

Given the characteristics of many Pennsylvania dairy farms, there may be opportunities to enhance marketing based on them, either generically or through development of specific branded products. One idea has been proposed at listening sessions is a generic marketing approach (likely more applicable in the southeastern part of the state) with something like the language "Simply good." Although value-added dairy processing can impose substantive additional management and marketing challenges, there may be opportunities to further develop this as a business strategy. We encourage additional study of the potential for value-added (and small-scale) dairy processing, with inputs from key industry stakeholders and perhaps led by PSU Food Science extension.

Continued Efforts to Highlight the Benefits of Processing Investments and Pennsylvania's Dairy-Related Resources

One component of this study identified incentives for investments in additional plant capacity in Pennsylvania, and this information has been incorporated in to the discussion process with potential dairy industry investors. This information should continue to be communicated, particularly to producer organizations, to whom many of the quantified economic benefits would

accrue. It is worth noting that Michigan's milk production growth "forced the issue" to examine opportunities for additional processing capacity, so it is possible to conceive of a strategy that grows milk production in advance of capacity growth, although the marketing opportunities for farm milk and current capacity could limit the potential for this sort of approach.