

Another Look at Dairy Modernization Experiences

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In this article, we will continue our revisit of results from a survey on dairy modernization experiences conducted by myself and Dr. Roger Palmer. The Wisconsin Dairy Modernization Survey was designed to examine both production responses and producer perceptions related to the modernization of their operation. The average herd in this survey experienced increased production. Nearly all producers were satisfied with their expansion experience. Those producers who were less risk-averse and willing to spend more money for investments were generally more satisfied than those who invested less. Producers followed industry bio-security recommendations to minimize health problems at different levels with isolation of animals introduced into the herd occurring in only 27% of herds in this sample. Managing labor appeared to be the biggest challenge facing producers following expansion. Full-time herd managers were the highest paid employees with established managers receiving higher pay than new managers. Managers tend to be paid monthly salaries rather than hourly like other job classifications. Established employees received higher wages than new employees.

Respondents who built all new facilities observed higher production, greater labor efficiency, and satisfaction with measures of profitability and quality of life than respondents who modified facilities or added no new facilities. As herd size increased, milk production, labor efficiency, and satisfaction with herd performance, profitability, and quality of life increased. Producers who built all new facilities spent less time on farmwork, more time managing employees, and had less difficulty finding, training, supervising, and keeping farm employees than producers who modified facilities or added new facilities to existing facilities. Larger herds were associated with an increased reliance on non-family labor. Problems with labor management decreased with increasing herd sizes. The most difficult challenges for producers who modernized their operations were with labor management, financing and loan procurement, construction and cost overruns, and feet and leg health. Difficulties with expansion did not differ much between expansion type or herd size.

A primary objective of the Wisconsin Dairy Modernization Survey was to compare features of freestall barns available to dairy producers. This study examined realized on-farm responses to management alternatives in random environments. Comparisons were made among herds using freestall barns as their primary housing for new versus remodeled facilities, barn design, bedding used, feeding strategy, manure removal strategies, animal restraint, maternity areas, overcrowding, and cooling methods. Producers who made the transition from tie-stall to freestall barns appear to be satisfied with this decision. New freestall barns provided a more desirable environment for the herd although initial investments were higher. When new freestall barns were compared, herds with 4-row barns had higher production, lower somatic cell count, and higher stocking rates than 6-row barns. High levels of production can be supported by either new or remodeled facilities although producers appear to be more satisfied with new facilities. Overall, 4-row barns and 6-row barns outperform 2-row and 3-row barns. Drive-through feeding was superior to drive-by or outside feeding for almost all factors measured. With new drive-through freestall barns, producers choosing 4-row barns had higher stocking rates, higher milk production, and lower average somatic cell count levels than producers who

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chose 6-row barns. DHI data showed no difference in milk production levels or somatic cell count levels for producers who chose sand or mattress-based freestalls. When producer satisfaction was compared, users who chose sand had higher cow comfort satisfaction scores, but mattresses were preferred for bedding usage, cost, and manure management issues. Most producers chose to use tractors to remove manure; however, producers who used automated manure removal systems were more satisfied with manure management. Alley scrapers, slatted floors, and flush systems appeared to allow for easier manure management than tractor scraping. No differences were observed between self-locking manger stalls and palpation rails for labor efficiency, although producers were more satisfied with the initial cost of palpation rails. Individual calving pens appeared to provide an advantage for calf health. Overcrowding did not affect milk production for herds in this survey. Supplemental cooling appeared to improve milk production but reduced cow cleanliness.

Planning the milking facility is an important stage in the planning process for an expanding dairy. Milking systems were compared for variations in performance, owner satisfaction, and investment costs. Comparisons were made for type of milking system, age of buildings, type of pit parlor, and type of flat parlor. Cows per hour, cows per worker hour, and turns per hour were used to describe parlor efficiency. Pit parlors were generally found to be the most efficient among milking system types, and producer satisfaction was higher with pit parlors. Parlors in new buildings were more efficient than parlors in old barns. Parallel parlors were typically more efficient than herringbone parlors.

Adding cows to a dairy herd increases the total feed requirements for the herd. Feeding practices also change with larger herd sizes. Using more feed requires more space to store this feed. The use of bunkers, flat pads, and storage pads has increased during recent years because of their lower investment costs and the ability to quickly fill and feed out large amounts of feed. Satisfaction with bunkers or trenches was significantly higher than satisfaction with upright silos, flat pads or piles, or storage bags. When herds expand, some dairy producers buy additional land to raise the additional feed required while others choose to purchase feed. Acres per cow decreased as more forages and grains were purchased. Using a custom heifer raiser allows producers to manage more cows on the same amount of land. Among larger herds, 22 to 28% of respondents reported having most or all of their heifers custom raised.