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Dairy cow handling facilities and the perception of Beef Quality Assurance on Colorado dairies

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ABSTRACT

A survey was conducted on Colorado dairies to assess attitudes and practices regarding Dairy Beef Quality Assurance (DBQA). The objectives were to (1) assess the need for a new handling facility that would allow all injections to be administered via DBQA standards; (2) establish if Colorado dairy producers are concerned with DBQA; and (3) assess differences in responses between dairy owners and herdsmen. Of the 95 dairies contacted, 20 (21%) agreed to participate, with a median herd size of 1,178. When asked to rank the following 7 traits—efficiency, animal safety, human safety, ease of animal handling, ease of operation, inject per Beef Quality Assurance (BQA) procedures, and cost—in order of priority when designing a new handling facility, human and animal safety were ranked highest in priority (first or second) by the majority of participants, with ease of animal handling and efficiency ranked next. Interestingly, the administration of injections per BQA standards was ranked sixth or seventh by most participants. Respondents estimated the average annual income from the sale of cull cows to be 4.6% of all dairy income, with 50% receiving at least one carcass discount or condemnation in the past 12 mo. Although almost all of the participating dairy farmers stated that the preferred injection site for medications was the neck region, a significant number admitted to using alternate injection sites. In contrast, no difference was found between responses regarding the preferred and actual location for intravenous injections. Although most participating producers are aware of BQA injection guidelines, they perceive efficiency as more important, which could result in injections being administered in locations not promoted by BQA. Dairy owners and herdsmen disagreed in whether or not workers had been injured in the animal handling area in the last 12 mo. Handling facilities that allow for an efficient and safe way to administer drugs according to BQA guidelines and educational opportunities that highlight the effect of improved DBQA on profitability could prove useful. Dairy producers play a key role in ensuring that dairy beef is safe and high quality, and just as they are committed to producing safe and nutritious milk for their customers, they should be committed to producing the best quality beef.
Key words: dairy beef quality assurance, dairy cow, dairy handling facility

INTRODUCTION

Dairy cows are handled more regularly than most other livestock animals, due in large part to the daily milking routine, routine veterinary exams, and reproductive management (Lindahl et al., 2013). Excluding the milking routine, the frequency of handling likely depends on the practices on each individual dairy. For example, herds employing intensive reproductive programs such as timed AI and estrous synchronization often handle their cattle on a daily basis; in contrast, cows on other dairies may only be handled weekly during routine veterinary exams. Regardless of the reason for handling, a working facility that meets the needs of a particular dairy is necessary. The best working facility for a particular dairy depends on herd size, expected treatment regimen, housing layout, labor force, and the frequency of handling (Bickert et al., 2000). The most common facilities found on dairy operations are single-file chutes, fence-line stanchions (headlocks), and herringbone palpation rails (management rails) (Bickert et al., 2000). Management rails are relatively simple and inexpensive to design and consist of a breast-rail and a rump-rail running parallel to each other with the front and back gates angled, similar to a herringbone milking parlor, for ease of loading (Wagner-Storch and Palmer, 2002). Appropriate handling facilities not only expedite procedures, make the dairy more efficient, and improve dairy welfare, but could also improve dairy beef quality and safety by allowing treatments to be administered in a manner that adheres to Beef Quality Assurance (**BQA**) principles.

The BQA program is designed to ensure that dairy and beef cattle are produced in a manner that results

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in safe, high-quality, and consistent beef products for consumers (Glaze and Chahine, 2009). The BQA program provides guidelines for producers to follow (BQA, 2012). Even though most producers are aware that the ideal location to administer injections for BQA is the neck, they continue to give them in the hind quarter due to ease of administration and management (Tozer et al., 2005). Such practices greatly compromise dairy BQA (**DBQA**) and the image of the dairy industry. The National Market Cow and Bull Beef Quality Audit listed injection-site lesion prevalence as a leading BQA challenge in 2007 (NCBA, 2007), with 11% of dairy cows having visible injection-site lesions. Similarly, Roeber (2003) reported that injection-site lesions rank second in importance of leading BQA issues, with only the occurrence of antimicrobial residues being of greater concern. Results from the National Beef Quality Audit (NBQA, 2011), a survey completed by beef and dairy producers, indicate that the preferred location for all injections is the neck region (87.0%), with only 4.9% of producers preferring the top of the hip and 1.7% preferring the lower rear leg. However, when considering only the answers submitted by dairy producers, 46.4% of respondents identified the neck region as the preferred location for injections, with 18.6 and 22.1% preferring the top of the hip and the lower rear leg, respectively. Moreover, research has shown that dairy cow carcasses have significantly more injection-site lesions in outside round muscles than beef cow carcasses (49 and 26%, respectively), illustrating that BQA practices are lacking on many dairy operations (Roeber et al., 2002).

Although the majority of income on a dairy farm is generated from the sale of liquid milk, other sources of income include the sale of cull cows and bulls for slaughter. It has been reported that cull cows and bulls comprise 4% of the income of dairy sales (Ahola et al., 2011). With an average replacement rate of 30 to 35%, cull dairy cows accounted for 10.9% of the beef animals slaughtered in early 2013 (USDA, 2013). A survey examining California dairy operations found that producers were hesitant to participate in a quality assurance program, primarily for financial reasons, indicating that the costs were likely to outweigh any benefits from the program (Payne et al., 1999). This logic is in direct disagreement with projections that indicate that injection-site lesions result in an astounding $9,000,000 loss to the beef and dairy industries (Roeber et al., 2002). It has been estimated that quality defects were responsible for a deduction of $68.82 per cow, with injection site blemishes accounting for $11.49 to $13.82 of that loss (Roeber et al., 2001; Tozer et al., 2005; Glaze and Chahine, 2009; Ahola et al., 2011). These findings support the argument that dairy producers would benefit financially if they were to implement and consistently follow a DBQA program on their operations.

In the past 6 decades, dairy production in the United States has become more efficient and has experienced consolidation, with total cow and farm numbers decreasing while herds increase in size (von Keyserlingk et al., 2013). This consolidation trend has contributed to increased reliance on hired labor for managing the dairy and, in many instances, has created a disconnection between the owners of the dairy and those who handle the animals. The distance between ownership and the employees handling cows could result in different perspectives regarding the efficiency and safety of working facilities.

The primary objectives of the present study were (1) to assess the need for a new type of handling facility for working dairy cows, similar to that of a management rail, that would allow all injections to be administered via DBQA standards; (2) to establish whether Colorado dairy producers were concerned with DBQA; and (3) to assess the differences in responses by dairy owners and management compared with herd personnel. A secondary aim of the study was to describe the current trends in management practices, including housing systems, culling decisions, estrous synchronization programs, and cull-cow marketing options, on Colorado dairy operations.

MATERIALS AND METHODS

A survey was developed to assess the potential need for a new handling facility that would allow for dairy operations to more easily follow DBQA standards. Survey questions were developed to help researchers assess the current needs and uses of working facilities on Colorado dairies, to help describe current management and housing practices that could affect dairy beef quality, and to determine the importance of DBQA on dairy operations. To obtain basic information about the Colorado dairies surveyed, questions were included pertaining to herd size, housing method, average stocking percentage, and general management practices. Also, several questions were included to characterize culling behavior on Colorado dairies. As one of the objectives of this study was to assess the need for a new handling facility similar to that of a management rail, producers were asked if they would be willing to install a management rail when considering building a new handling facility. The final survey consisted of 45 open- and closed-ended questions, along with some individual questions that required multiple responses. Ninety-five dairy operations were solicited to participate in the survey by e-mail and phone, with 20 agreeing to