

A Historical Review of the Unified Dairy Cattle Evaluation Scorecard

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Introduction/Need for Research

“Judging dairy cattle is a comparative evaluation of cattle in which animals are ranked based on their closeness to ‘ideal’ dairy conformation” (Stamschror et al., 2000, p. 1). Dairy cattle evaluation, or *judging*, is well-established among agricultural youth organizations. Dairy judging events seek to provide students with practical experience relevant to the dairy industry and develop their evaluation, observation, and analysis skills (Spike & Orth, 1997). Students competed in dairy evaluation contests as early as 1906 when the first National Collegiate Dairy Judging Contest was held (Schwanke, 1997). Four-H members began competing in the National 4-H Dairy Cattle Judging Contest in 1919 (World Dairy Expo, 2021). The first National Dairy Judging Contest for vocational agriculture students was held as part of the National Dairy Show in Indianapolis, Indiana in 1925 (Tummons et al., 2017). The Federal Board for Vocational Education (1926) noted that “[n]early every state in the region holds an annual judging contest of some kind” (p. 81). These contests, along with others, helped set the stage for Career Development Events (CDE), which the National FFA Organization now hosts, including its Dairy Evaluation CDE (Tummons et al., 2017).

One of the most significant factors of dairy evaluation that links past and present dairy competitions is the *Unified Dairy Evaluation Scorecard*. The Purebred Dairy Cattle Association [PDCA] (2009) has published its Unified Scorecard as the basis for assessing dairy cattle since 1943. Such “is based on the concept of comparing a dairy cow to ‘True Type’ using a 100-point scale” (Halbach, 2009, para. 1). The Scorecard established a knowledge basis for those learning the required skills to compete in dairy evaluation contests. Learning and understanding the point values allow students to weigh the importance of each attribute while considering the placement of each animal within a class of four. “Whether consciously or not, the scorecard is [often] referred to when placing a class of dairy cattle” (Stamschror et al., 2000, p. 1). It helps evaluators identify and prioritize those “functional traits associated with [a cow’s potential for] high milk production over a long, troublefree productive life” (Stamschror et al., 2000, p. 1).

Understanding the history and evolution of the Scorecard provides insight into the development and change of the *ideal* dairy female throughout time. These scorecards also offer insight into the principles and practice of live animal evaluation by agricultural youth. Also, understanding how various scorecards have been used to educate youth may lead to a better understanding of dairy education trends, learning resources, and teaching practices. The purpose of this historical study was to describe the development and evolution of the Unified Scorecard to its current version and use by agricultural youth organizations over time.

Conceptual Framework and Methodology

McDowell (2002) said that historical research provides the opportunity to understand the relationships between and significance of phenomena. This study sought to describe the origin, evolution, and application of the Unified Dairy Cattle Evaluation Scorecard over time, especially by U.S. agricultural youth, by using historical research methods (McDowell, 2002). Internet search engines and library search engines at Oklahoma State University were used to identify sources. The study’s key search terms included: dairy cattle evaluation, dairy cattle judging, dairy cattle judging scorecard, dairy evaluation scorecard, the origin of the dairy cattle evaluation scorecard, history of 4-H dairy judging, FFA dairy judging contest, the origin of dairy cattle judging FFA, and origins of dairy cattle judging. Primary and secondary sources were analyzed to assure authenticity and accuracy, i.e., the historical research principles of positive and negative criticism were applied (Johnson & Christensen, 2012). We made efforts to mitigate presentism (Johnson & Christensen, 2012) by analyzing changes to the scorecards over time.

Findings/Results

The original PDCA Unified Scorecard was published in 1943 (PDCA, 2009). It described the *ideal dairy conformation* when evaluating dairy cattle and has been updated on five occasions since its inception, with revisions in 1957, 1971, 1982, 1994, and 2009. Each version shared similarities with earlier versions while being updated regarding the terminology, the desirability of traits, and the images of cows

displayed. The 1943 version laid the groundwork for the next five. Its main evaluative categories included: General Appearance, Dairy Character, Body Capacity, and Mammary System, each with its own point value, including 30 points, 20 points, 20 points, and 30 points, respectively. These four main categories were divided into subcategories. The first revision to the Scorecard was published in 1957. It changed point categories and established values that would not be modified in the 1971 version, as the only changes to this Scorecard were to breed restrictions and illustrations. The 1957 and 1971 versions used the previously established main categories. However, some traits were removed and point values redistributed for General Appearance and Body Capacity. The Mammary System category was also restructured in 1957. The third revision, in 1982, modified the point distribution further, including revising the General Appearance, Body Capacity, and Mammary System categories. The latter category was also renamed to *Udder*. The 1994 revision was the only to include five major evaluative categories. It was also the only Scorecard that did not provide point values at the subcategory levels. Its categories were Frame, 15 points; Dairy Character, 20 points; Body Capacity, 10 points; Feet and Legs, 15 points; and Udder, 40 points. The most recent Scorecard, published in 2009, reverted to only four main categories: Frame (15 points); Dairy Strength (25 points), which replaced Dairy Character; Rear Feet and Legs (20 points); and Udder (40 points).

Throughout the Scorecard's use, breed descriptions were included, and various point values assigned to conform to breed standards. These descriptions and standards were revised as the Scorecard was updated. In 1957, the breed descriptions were moved to the back page and replaced by a labeled diagram of a dairy female. The updated descriptions included short statements describing the overall appearance of each breed. Breeds also updated their standards for horns so that no discrimination should be enforced for the absence of such. In 1982, the breed descriptions were further modified, and the Head category replaced Horns. All breeds received explanations for the ideal appearance of the head to include polled cattle. The images used in the 1982 version were all polled, including the labeled cow diagram, and included the newly added Milking Shorthorn breed. The 2009 Scorecard added the Red & White breed. This version also used an image of a Holstein cow instead of a Jersey cow for its labeled diagram. The Scorecard's Evaluation of Defects section did not experience many significant revisions over time.

The PDCA's Unified Dairy Cattle Scorecard can be seen in literature as early as 1945 when the USDA released a publication detailing the evaluation and selection of dairy cattle for use by producers (Nystrom, 1945). However, the Unified Scorecard should not be confused with breed-specific or general scorecards, which existed but were not released by the PDCA. Breed groups published scorecards starting with the Guernsey scorecard in 1828, and others followed suit (Bayley et al., 1961). An example can be seen in a 1936 University of Minnesota Extension publication (Peterson & Searles, 1936).

Since its inception, PDCA's Unified Scorecard provided the fundamentals, such as "the parts of a cow, ideal dairy conformation, and how to describe differences between animals" (Stamschror et al., 2000, p. 1), to those learning dairy cattle evaluation. Extension publications for 4-H youth have often included the Scorecard and advised that they "learn the dairy cow unified scorecard and [its] major breakdowns" (Iowa State University Extension and Outreach, 2021) before competing in judging contests or events.

Conclusions, Implications, and Recommendations

The PDCA's Scorecard was first published in 1943 (Stamschror et al., 2000). It was rooted in the basics so that evaluators may select the ideal production type dairy female that "converts feed to milk while maintaining adequate strength to sustain her production" (Kutz, n.d., p. 3). The Scorecard has had six versions, each reflecting trends in the dairy industry, such as dehorning. These changes came as the industry evolved and the ideal dairy female changed. Changes included updated point allocations, categories, new breeds, and breed descriptions. The most recent version was published in 2009. More research should be done to understand the use of dairy cattle evaluation scorecards across breeds and how this may have led to the need for a Unified Scorecard. Analysis of the literature revealed findings regarding changes to the Scorecard and its use in educational materials for youth involved in dairy cattle evaluation. Studies are also needed to explore the use of evaluation scorecards and related learning material for other types of livestock and how such has been used to inform and educate over time.

References

- Bayley, N. D., Parker, J. B., Heidhues, T., & Swett, W. W. (1961). *Dairy type: Its importance in breeding and management*.
- Federal Board for Vocational Education. (1926). *Tenth annual report to Congress of the federal board for vocational education*. U.S. Government Printing Office.
- Halbach, T. (2009, August 10). *PDCA unveils new dairy cow scorecard*. Animal & Dairy Sciences – University of Wisconsin Madison. <https://andysci.wisc.edu/wp-content/uploads/sites/263/2020/05/Scorecad8.10.2009.pdf>
- Holstein Foundation. (2016). *Holstein foundation dairy judging workbook* (3rd ed.).
- Iowa State University Extension and Outreach. (2021). *Dairy judging contest*. <https://www.extension.iastate.edu/4h/dairy-judging>
- Johnson, B., & Christensen, L. (2012). *Educational research: Quantitative, qualitative, and mixed approaches* (4th edition). SAGE.
- Kutz, B. (n.d.). *Dairy cattle evaluation* (MP469). University of Arkansas. <https://www.uaex.edu/publications/PDF/MP-469.pdf>
- McBrayer, A. (2009, August 12). *New dairy cow unified Scorecard*. Dairy Herd Management. <https://d28e2b5z7p5q0k.cloudfront.net/news/new-dairy-cow-unified-scorecard>
- McDowell, W. H. (2002). *Historical research: A guide*. Pearson Education Limited.
- National FFA Organization. (2018, October 16). *Dairy cattle evaluation and management poster*. FFA.org. <https://ffa.app.box.com/s/o1xcrm871io8cdnmdvk9v9j1n1tfqs8c/file/332664919855>
- Nystrom, A. B. (1945). *Dairy cattle judging*. U.S. Government Printing Office.
- Peterson, W. E., & Searles, H. R. (1936). *Judging dairy cattle*. University of Minnesota Agricultural Extension Division.
- Purebred Dairy Cattle Association. (2009). *Dairy cow unified Scorecard*. https://www.purebreddairy cattle.com/file_open.php?id=2
- Schwanke, C. (1997). Dairy youth programming: Where we've been, and where we go from here. *Journal of Dairy Science*, 80(8), 1880-1883. [https://doi.org/10.3168/jds.s0022-0302\(97\)76124-1](https://doi.org/10.3168/jds.s0022-0302(97)76124-1)
- Spike, P., & Orth, R. (1997). National FFA dairy career development event. *Journal of Dairy Science*, 80(8), 1888-1890. [https://doi.org/10.3168/jds.s0022-0302\(97\)76126-5](https://doi.org/10.3168/jds.s0022-0302(97)76126-5)
- Stamschorr, J., Seykora, T., & Hansen, L. (2000, July). *Judging dairy cattle*. USDA APHIS Landing page. https://www.aphis.usda.gov/animal_health/emergingissues/compensation/downloads/judgingdairy cattle.pdf
- Tummons, J. D., Simonsen, J. C., & Martin, M. J. (2017). Role of the agricultural industry and judging events in formation of the future farmers of America. *Journal of Agricultural Education*, 58(1), 236-250. <https://doi.org/10.5032/jae.2017.01236>
- World Dairy Expo. (2021). *99th national 4-H dairy cattle judging contest*. https://worlddairyexpo.com/file_open.php?id=281