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Milked Messages: Exploring Dairy Industry Narratives in U.S. News

Abstract

This study examines the framing of dairy farming in U.S. news, focusing on framing functions, subject matter, and informational and moral/ethical frames. Through a quantitative content analysis of 282 news pieces from eight outlets, this research explores how the dairy is represented and considers potential implications for public perception. Findings indicate that problem definition was the most prominent framing function, appearing in all sampled pieces, while moral evaluations and treatment recommendations were present in only a quarter of the coverage. Dairy demand was the most frequently discussed topic, and farm failures received significantly more attention than farm successes. Informational frames were largely negative, aligning with previous research indicating a news media tendency to highlight industry challenges. Moral/ethical frames were predominantly neutral, suggesting minimal explicit opinions from news outlets. These results suggest that news coverage may contribute to a perception of dairy farming as facing persistent difficulties with few presented solutions. Recommendations include enhancing industry transparency, highlighting positive developments, and addressing concerns through educational initiatives and strategic communication. This study provides a foundation for further research on media framing's influence on public attitudes and offers insights for shaping industry narratives.

Keywords

dairy, news media, framing theory

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Introduction and Literature Review

Dairy farming is a sector of the agricultural industry involving the breeding, raising, and harnessing of cows and other dairy animals for milk production and its associated products (Webb, 2023). Globally, the dairy industry employs approximately one billion people and influences almost six billion consumers (Emond, 2019). Approximately 20% of the world's agricultural land is dedicated to dairy farming, comprised of 133 million dairy farms which are home to 600 million people worldwide (Emond, 2019). In addition to economic contributions, dairy products provide nutritional benefits to consumers. Worldwide, dairy products provide anywhere from 52-65% of the recommended calcium intake and 20-28% of the daily protein requirement in many countries (Rozenberg et al., 2015). Given these contributions, dairy farming plays a significant role in global agriculture. However, discussions about the dairy have led to ongoing debate.

One point of discussion regarding dairy farming involves the expansion to larger operations. Historically, most dairy farms were pasture-based and used grasslands as the main feed source for cattle (Medeiros et al., 2022). The shift to larger farms channeled the previously spread-out animal waste onto a reduced land area, which has raised public concerns (MacDonald et al., 2008). Additionally, fewer than 5% of dairy cattle now have routine grazing access (Weary & von Keyserlingk, 2017). According to Weary and von Keyserlingk (2017), this shift contrasts with public perceptions of dairy farming practices. There is a perception among the public that animal welfare is compromised on larger farms, although empirical evidence on the subject is limited (Weary & von Keyserlingk, 2017). Animal welfare, defined as the state of an animal in its living conditions (Broom, 2013), is another key topic of discussion. It is assessed based on five factors including nutrition, environment, health, behavior, and mental state, all of which collectively determine overall welfare (Cappiello, 2020). Research indicates that the public often associates good animal welfare with an animal's ability to live a reasonably natural life (Weary & von Keyserlingk, 2017). Given the role of public perception in shaping practices and policies, examining media framing related to dairy farming can provide insight into the narratives surrounding it.

There has been widespread coverage of dairy farming in recent years, bringing potential challenges. According to Rice et al. (2020), negative media events frequently capture public attention. This is important to consider, as this type of coverage can have political and regulatory consequences (Rice et al., 2020), and information about dairy farming is sometimes inconsistent or incomplete in public discourse (Derksen, 2018). While news content may not always produce immediate shifts in public opinion, research suggests repeated exposure to particular narratives can have cumulative effects over time (Rice et al., 2020). Prior studies indicate that negative aspects of agriculture tend to receive more attention in news coverage (Lawson & Meyers, 2020). Combined with the fact that many individuals have limited direct knowledge of dairy farming (Derksen, 2018), this dynamic could shape public perceptions of the practice.

Research on the specific frames used in dairy news narratives remains limited. Existing research has explored framing as it relates to specific incidents or topics within the industry. For example, Vigors (2019) explored the framing of animal welfare in the news and found that the concept of "positive animal welfare" was sometimes misinterpreted by the public due to preexisting perceptions. Similarly, Frewer et al. (2016) found that media framing of agricultural innovations, such as sustainable practices or new technologies, influenced public acceptance, particularly when frames aligned with societal values. However, a holistic analysis of news

frames concerning dairy farming has not yet been conducted. This gap is notable given the industry's substantial economic and societal relevance. Understanding how news coverage frames dairy farming is important as the dairy industry navigates evolving public expectations. This study aimed to identify patterns and themes in news coverage that may influence public perceptions of the industry in the United States. By addressing this, the research seeks to provide insights into dairy farming as represented in the news and the potential impacts for public opinion.

Theoretical Framework

The work of this study was guided by framing theory. As defined by Entman (1993), framing involves selecting particular elements of a story and enhancing their salience to promote a specific interpretation by function of problem definition, causal interpretation, moral evaluation, or treatment recommendation. By increasing the salience of specific elements, framing shapes how audiences interpret, prioritize, and respond to complex information (Scheufele, 1999). This process is particularly relevant in agricultural contexts where public understanding of industry practices may be limited, and media narratives serve as a primary source of information (Derksen, 2018).

Emotional framing has also been shown to influence public opinion and policy support. Sinclair et al. (2018) demonstrated this idea in their study of public opinion regarding live export trade in Australia, where empathy-driven stories contributed to widespread opposition. Similarly, Greiner et al. (2009) found that emotional framing in agricultural communication, specifically stories highlighting loss or harm, can increase public concern and prompt stronger responses. These examinations of framing suggest that news media coverage plays a role in shaping discussions about agriculture by framing issues in ways that resonate with societal values and emotions.

Framing theory is particularly relevant when analyzing media coverage of dairy farming, as topics such as animal welfare, environmental sustainability, and farm size often appear in public discourse (Rice et al., 2020). For example, large-scale farm operations are sometimes framed in contrast to public expectations of traditional, pasture-based farms, which may influence perceptions of the industry (Weary & von Keyserlingk, 2017). Frames emphasizing industrialization, environmental concerns, or poor animal welfare concerns can shape public understanding of dairy farming, while other frames may highlight economic contributions or advancements in sustainability (Medeiros et al., 2022). The news media's framing choices can influence consumer attitudes and policy discussions. As noted by Rice et al. (2020), repeated exposure to specific frames can have long term effects on public opinion, even if each individual news story does not immediately shift perceptions. In sectors such as dairy, where public trust is important, these incremental effects may have meaningful implications for consumer demand and farming practices.

This study applies Entman's (1993) four functions of framing theory – problem definition (i.e., identifying an issue), causal interpretation (i.e., assigning responsibility), moral evaluation (i.e., adding an emotional dimension), and treatment recommendation (i.e., proposing solutions) – to analyze news coverage of dairy farming. By identifying the prevalence of different frames in news narratives, this research seeks to identify patterns in how dairy farming is presented. Understanding these frames is a key step in helping agricultural communicators develop strategies that engage with public values and address misconceptions, contributing to a more comprehensive understanding of the dairy industry.

Purpose and Research Questions

The purpose of the research is to examine presentation of dairy farming in news coverage as a foundation for understanding the news' impact on public opinion. This study is guided by the following questions:

RQ1: Which of the four functions of framing (problem definition, causal interpretation, moral evaluation, treatment recommendation) is most prevalent in news media about dairy farming?

RQ2: What are the overarching subjects presented by the United States news media when covering dairy farming?

RQ3: How are news media stories about dairy farming framed?

Method

Selection of News Pieces

A content analysis of news coverage of dairy farming from January 1, 2019, to December 31, 2023, was conducted. Nexis Uni was used to collect coverage within the timeframe from CNN, MSNBC, Fox News, CBS, ABC, NBC, New York Times, and USA Today. Because content analysis is an effective way to identify focuses and trends in communication (Columbia University, 2023), it was deemed the most appropriate method for answering the provided research questions. These news sources were selected based on their high average audiences in comparison to other news sources (Pew Research Center, 2023). Due to the availability of news content, both news articles and transcripts of news content originally presented in video format were used. No video content was used, allowing the study to focus solely on text without the influence of other visual factors. The search terms “[news source] AND dairy farm OR dairy industry OR dairy cattle” were used. The intended news source was selected as the only source of content, and this process was repeated for each news source, yielding 282 pieces after the removal of duplicate and irrelevant pieces. Irrelevant pieces were determined as news content using the word “dairy” in discussion of topics not including the dairy industry.

Sample Overview

Of the 282 pieces, a majority of the sample were news articles ($f = 193$, 68.4%) and a smaller number was transcripts from broadcast news ($f = 89$, 31.6%). The contribution of each news source to the sample is outlined in Table 1.

Table 1
Sample Contribution by News Source

Source	f	%
New York Times	97	34.4%
CNN	67	23.8%
USA Today	44	15.6%
Fox News	21	7.4%
CBS	16	5.7%

Source	<i>f</i>	%
MSNBC	13	4.6%
ABC	12	4.3%
NBC	12	4.3%

Codebook

Drawing from Entman's (1993) categorization of the four functions of framing, pieces were coded as 1 for present and 0 for absent for problem definition, causal interpretation, moral evaluation, and treatment recommendation. The presence and absence of subject categories including animal welfare, farm accidents, operation characteristics, economic impacts, environmental impacts, health impacts, farm failure, farm success, dairy demand, laws and policies, and "other" were recorded. Following the identification of subjects, the single dominant subject of each piece was recorded. The dominant subject was determined by observing which subject was mentioned most frequently or best aligned with the story's overall purpose.

Next, the moral/ethical frame of the piece was recorded as positive, negative, or neutral (see Table 2). The moral/ethical frame was determined by the addition, or lack thereof, of an emotional dimension to the story. Pieces with no emotional dimension were assigned a neutral moral frame. Following the evaluation of moral frames, the informational frame of the piece was also noted as positive, negative or neutral. The informational frame was determined strictly by the information presented, disregarding the influence of any opinions also presented. Finally, the pieces were coded for the presence or absence of outside sources including farmers and other agriculture workers, veterinarians, protesters, politicians and policy makers, scientists, regulators, professors and other university workers, and "other." If a source was present, the frame of the source was recorded as positive, negative or neutral.

Table 2

Explanations of Frames

Frame	Definition	Examples
Positive informative	A positive informative frame is one that relays information which would be considered "favorable" by the audience.	Examples of positive informative frames could include discussion of benefits, good practices, positive societal implications, farm success stories, good animal welfare, etc.
Negative informative	A negative informative frame is one that relays information which would be considered "unfavorable" by the audience.	Examples of negative informative frames could include discussion of consequences, bad practices, negative societal implications, farm failure stories, bad animal welfare, showcases of negative change, etc.

Frame	Definition	Examples
Positive moral/ethical	A positive moral/ethical frame is one that intends to add a moral dimension to a story which evokes favorable emotions such as happiness, compassion, joy, laughter, pride. etc. This could be through the discussion of things such as honesty, integrity, fairness, compassion, respect, stewardship, etc.	Examples of positive moral/ethical frames could include the discussion of testimonies with positive or optimistic viewpoints, positive opinions about the industry, encouragement or support for dairying, etc.
Negative moral/ethical	A negative moral/ethical frame is one that intends to add a moral dimension to a story which evokes negative emotions such as guilt, pity, anger, sadness, etc. This could be through the discussion of dishonesty, exploitation, harm, injustice, etc.	Examples of negative moral/ethical frames could include showcases of negative change, testimonials with negative or pessimistic viewpoints, bad animal welfare, stories expressing concern or fear, calling attention to controversy, etc.

Intercoder Reliability

A second coder was used to establish intercoder reliability. Coder training included an in-depth review and explanation of both the code sheet and code book. The two coders independently coded 28 of the 282 pieces, using 10% of the study sample, and the software ReCal was used to calculate all aspects of intercoder reliability (Wimmer & Dominick, 2014). Percent agreement for each individual variable surpassed 90.0%. The variables problem definition, “other” subject, veterinarian source, veterinarian frame, protester source, and protestor frame yielded an “undefined” result for Scott’s Pi, Cohen’s Kappa, and Krippendorff’s Alpha (Wimmer & Dominick, 2014). The “undefined” result was due to the combination of the two coders having 100.0% agreement and only one of the potential response options being used on each variable.

Data Analysis

Upon review of the sample, only duplicate pieces were removed. The results of this study are inherently descriptive. Using SPSS (Field, 2024), the descriptive statistics were analyzed using frequencies and percentages. Comparative frequencies were analyzed to provide a deeper understanding of the provided research questions.

Limitations

There were some limitations to the conduction of this study. The challenge with content analysis lies in the subjectivity of interpreting content. Despite careful analysis, the news media’s

reasoning for framing and subject selection cannot be confirmed. This limitation highlights the difficulty in interpreting and understanding the implied messages of media content. It is important to also acknowledge that the sample consisted of content from only eight news sources. While these sources were selected based on their prominence and reach, the findings may not be fully generalizable to the entirety of news coverage on the dairy industry. The diversity of news sources and their individual perspectives may contribute to results that cannot be fully captured due to the limited scope of this study. Lastly, the uneven contribution of each news source to the sample presents limitations to the statement of results. While the results are reported as analyzed, it is important to consider the affect contribution has on each source's descriptive statistics.

Results

RQ1: Which of the Four Functions of Framing (problem definition, causal interpretation, moral evaluation, treatment recommendation) is Most Prevalent in News Media About Dairy Farming?

The first research question inquired about the presence of each of the four framing functions, problem definition, causal interpretation, moral evaluation, and treatment recommendation in news coverage of dairy farming. Problem definition ($f = 282$, 100%), defined as the presentation of a problem, issue, or situation, was the most frequently recorded function. An example of problem definition within the sample was a statement of the decline in demand for dairy products (Wiener-Bronner, 2023). Causal interpretation ($f = 215$, 76.2%) was defined as the attribution of a specific cause or reason for the presented situation. An example in the sample was the mention of dairy alternatives as a potential cause for the decrease in dairy demand (LaMotte, 2023). Moral evaluation ($f = 67$, 23.8%), defined as the addition of an ethical component to the situation of discussion, was the least frequently recorded. This was recorded in any instance which the author's stance on the defined problem was clear to the reader. Finally, treatment evaluation ($f = 77$, 27.3%) was defined as providing possible solutions, remedies, or a call to action. This was observed in a piece suggesting dairies engage in more outreach in their communities (Lendzion, 2023).

RQ2: What are the Overarching Subjects Presented by the United States News Media when Covering Dairy Farming?

The second research question considered what subjects were discussed in news concerning dairy farming. To obtain a better idea of which subjects, or topics, were being discussed, this question was split into two separate parts. First, each subject that was a topic of discussion in a piece in any capacity was recorded as present, presented in Table 3.

Table 3
Presence of Subject Matter

Subject	f	%
Dairy demand	124	44.0%
Economic impacts	97	34.4%
Operation characteristics	79	28.0%
Farm failure	76	27.0%

Subject	<i>f</i>	%
Laws/policies	74	26.2%
Environmental impacts	55	19.5%
Health impacts	53	18.8%
Animal welfare	44	15.6%
Farm success	17	6.0%
Farm accidents	14	5.0%
Other subject	2	0.7%

Dairy demand ($f = 124$, 44.0%) was the most frequently mentioned subject across the sample, followed by economic impacts ($f = 94$, 34.4%) and operation characteristics ($f = 79$, 28.0%). Farm accidents ($f = 14$, 5.0%) was the least frequently discussed subject.

Second, the most dominant subject of all the present subjects in each piece was recorded. The dominant subject was determined to be the overarching subject, dominating the discussion, or most the subject most closely aligning with the overall purpose of the piece. These results are presented in Table 4.

Table 4
Dominant Subjects

Subject	<i>f</i>	%
Dairy demand	62	22.0%
Laws/policies	46	16.3%
Farm failure	36	12.8%
Operation characteristics	24	8.5%
Environmental impacts	23	8.2%
Animal welfare	22	7.8%
Economic impacts	22	7.8%
Health impacts	19	6.7%
Farm success	14	5.0%
Farm accidents	12	4.3%
Other subject	2	0.7%

Dairy demand ($f = 62$, 22.0%) was the most frequent dominant subject, followed by laws and policies ($f = 46$, 16.3%) and farm failure ($f = 36$, 12.8%). Farm accidents ($f = 12$, 4.3%) were least frequently the dominant subject. Both stories coded as “other” discussed a politician’s family history in the dairy industry.

RQ3: How are News Media Stories About Dairy Farming Framed?

The third research question asked about the commonalities or incongruencies in the way dairy farming is framed through the news media. To obtain a deeper understanding, this question was separated into moral/ethical frames and informational frames.

Moral/ethical frames

A neutral moral/ethical frame was the most common ($f = 191$, 67.7%), followed by negative moral/ethical frames ($f = 61$, 21.6%) and positive moral/ethical frames ($f = 30$, 10.6%). A story discussing a school visit to a dairy farm, expressing the author's appreciation for the outreach effort, was one example of a positive, morally framed piece. A story discussing animal welfare, expressing the author's disdain for the farm's practices, was one of the pieces categorized as negative, morally framed. Table 5 displays the comparison of each moral/ethical frame's presence across each source.

Table 5
Comparison of Moral/Ethical Frames Between News Sources

Source	Positive		Negative		Neutral	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Fox News	7	33.3%	3	14.3%	11	52.4%
ABC	2	16.7%	2	16.7%	8	66.7%
NBC	2	16.7%	2	16.7%	8	66.7%
CNN	11	16.4%	14	20.9%	42	62.7%
CBS	1	6.3%	3	18.8%	12	75.0%
New York Times	6	6.2%	27	27.8%	64	66.0%
USA Today	1	2.3%	9	20.5%	34	77.3%
MSNBC	0	0.0%	1	7.7%	12	92.3%

Positive moral/ethical frames were most common in Fox News ($f = 7$, 33.3%) and least common in MSNBC ($f = 0$, 0.0%). New York Times ($f = 27$, 27.8%) had the highest percentage of negative moral/ethical frames, while MSNBC ($f = 1$, 7.7%) had the lowest. Neutral moral/ethical frames were most common in MSNBC ($f = 12$, 92.3%) and least common in Fox News ($f = 11$, 52.4%). Table 6 compares the presence of different moral/ethical frames between the discussed subjects in the piece.

Table 6
Comparison of Moral/Ethical Frames Between Subjects

Frame	Positive		Negative		Neutral	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Farm success	9	52.9%	0	0.0%	8	47.1%
Operation characteristics	12	15.2%	21	26.6%	46	58.2%
Animal welfare	6	13.6%	22	50.0%	16	36.4%
Environmental impacts	7	12.7%	12	21.8%	36	65.5%
Economic impacts	8	8.2%	15	15.5%	74	76.3%
Dairy demand	10	8.1%	17	13.7%	97	78.2%
Laws/policies	6	8.1%	18	24.3%	50	67.6%
Health impacts	4	7.5%	21	39.6%	28	52.8%
Farm failure	3	3.9%	18	23.7%	55	72.4%
Farm accidents	0	0.0%	10	71.4%	4	28.6%
Other	0	0.0%	0	0.0%	2	100.0%

Out of all the subjects, farm success ($f = 9$, 52.9%) was most commonly discussed with a positive moral/ethical frame and farm accidents ($f = 0$, 0.0%) least commonly. A negative moral frame was most common in discussion of farm accidents ($f = 10$, 71.4%) and least common in farm success ($f = 0$, 0.0%) discussion. Lastly, dairy demand ($f = 97$, 78.2%) was the subject most commonly discussed with a neutral moral frame, and farm accidents ($f = 4$, 28.6%) was least commonly neutral.

Informational Frames

This section continues to answer the third research question about the framing trends in dairy farming news. A negative informational frame ($f = 167$, 59.2%) was the most common, followed by a positive informational frame ($f = 62$, 22.0%), and a neutral informational frame ($f = 53$, 18.8%). Table 7 shows the comparison of each informational frame's presence across each news source.

Table 7
Comparison of Informational Frames Between News Sources

Source	Positive		Negative		Neutral	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
ABC	5	41.7%	6	50.0%	1	8.3%
CBS	4	25.0%	9	56.3%	3	18.8%
CNN	21	31.3%	35	52.5%	11	16.4%
Fox News	5	23.8%	9	42.9%	7	33.3%
MSNBC	3	23.1%	8	61.5%	2	15.4%
NBC	2	16.7%	8	66.7%	2	16.7%
New York Times	14	14.4%	68	70.1%	15	15.5%
USA Today	8	18.2%	24	54.5%	12	27.3%
Total	62	22.0%	167	59.2%	53	18.8%

ABC ($f = 5$, 41.7%) had the highest percentage of positive informational frames, while New York Times ($f = 14$, 14.4%) had the lowest. Negative informational frames were most common in New York Times pieces ($f = 68$, 70.1%) and least common in Fox News ($f = 9$, 42.9%). Of all the sources, Fox News ($f = 7$, 33.3%) had the highest percentage of neutral informational frames, and ABC ($f = 1$, 8.3%) had the lowest. Table 8 compares the presence of the informational frames depending on the subjects discussed in the piece.

Table 8
Comparison of Informational Frames Between Subjects

Subject	Positive		Negative		Neutral	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Animal welfare	14	31.8%	22	55.0%	8	18.2%
Farm accidents	1	7.1%	12	85.7%	1	7.1%
Operation characteristics	24	30.4%	37	46.8%	18	22.8%
Economic impacts	19	19.6%	55	56.7%	23	23.7%
Environmental impacts	14	25.5%	26	47.3%	15	27.3%

Health impacts	7	13.2%	38	71.7%	8	15.1%
Farm failure	4	5.3%	61	80.3%	11	14.5%
Farm success	15	88.2%	0	0.0%	2	11.8%
Dairy demand	17	13.7%	84	67.7%	23	18.5%
Laws/policies	14	18.9%	45	60.8%	15	20.3%
Other	0	0.0%	0	0.0%	2	100.0%

Of all the subjects, farm success ($f = 15$, 88.2%) was most often discussed with a positive informational frame and farm failure ($f = 4$, 5.3%) the least. The subject with the highest percentage of pieces in a negative informational frame was farm accidents ($f = 12$, 85.7%), while farm success ($f = 0$, 0.0%) had the lowest percentage. A neutral informational frame was recorded most often in discussion about environmental impacts ($f = 15$, 27.3%) and least common in farm accidents ($f = 1$, 7.1%) discussion.

Conclusions, Implications, and Recommendations

The data revealed problem definition was the most frequently used function of framing, found in 100% of the pieces. This indicates every piece in the sample presented a problem, issue, or situation as the center of its narrative. The overreliance on problem definition in the news without solutions could lead readers to issue fatigue, causing readers to disengage with agricultural news. In contrast, moral evaluations, which attach an ethical component to the story, and treatment recommendations, which propose solutions, were present in about a quarter of the observed pieces. The limited inclusion of treatment recommendations leaves little room for the public to see the proactive efforts working to counteract the issues presented.

The presence of framing functions aligns with Entman's (1993) assertion that to frame is to increase the salience of specific aspects of a reality, potentially emphasizing the existence of problems over their solutions. This pattern in news coverage may influence public perception by drawing attention to challenges while placing less emphasis on potential solutions. Sinclair et al. (2019) suggested a focus on negative framing in agricultural contexts can influence public confidence in the industry. The gap in solution-oriented news pieces reinforces the need for this research by identifying where agricultural communicators should focus their efforts. Communicators should consider incorporating more solution-oriented narratives to allow for a more comprehensive industry portrayal alongside problem-focused coverage from news sources. This approach could help to reshape dairy perception by showcasing the steps being taken towards progress by dairy farms.

The findings also highlight the frequency and prominence of various subjects across news coverage. Dairy demand was the most frequently discussed topic, both in terms of mentions and as the dominant subject of pieces, indicating its prominence within the sample. This may be due to the industry's reliance on consumer demand for dairy products. However, the underlying reasons for this focus remain unconfirmed, highlighting a common limitation in framing research. Farm failure was another frequently discussed subject, often surfacing as a consequence of a broader issue such as policy changes or market trends. By comparison, farm success was presented less frequently. This finding is consistent with those from Lawson and Meyers (2020) who observed negative aspects of agriculture tend to receive more media attention. The imbalance between failure and success stories may contribute to a public vision of dairy as an industry in crisis, regardless of fluctuating economic reality. By highlighting this

imbalance, this research identified a specific area where agricultural communicators could counteract misrepresentation with more accurate narratives. If communicators work to increase the visibility of stories emphasizing innovation and progress in dairy farming, readers could receive a more balanced narrative. Additionally, future research, mimicking Vigors' (2019) examination of the public perceptions of agricultural topics, could help to clarify how closely public attitudes align with news portrayals. This would provide insight into how strongly the imbalance in subject matter is influencing public opinion.

The analysis also indicated a predominance of neutral moral/ethical frames, suggesting most coverage refrained from explicitly presenting opinions and ethical judgements about the industry. However, negative informational frames appeared in nearly two-thirds of the sample, which aligns with previous findings that such coverage can influence public support (Sinclair et al., 2018). Outreach initiatives emphasizing the role of dairy in consumers' daily lives and its economic contributions could serve to broaden public understanding of the industry.

Operation characteristics, a topic often associated with debate in dairy farming, were framed predominantly negatively in approximately half the sample addressing this subject. This is consistent with Medeiros et al.'s (2022) research, which suggests modern dairy farming practices are frequently met with consumer skepticism. Educational initiatives, such as farm tours or informational campaigns, could help enhance public understanding of industry practices. Additionally, these efforts would provide opportunities for the industry to assess its own practices and consider potential adjustments that better align with public expectations and ethical standards. Agricultural communicators should prioritize transparency surrounding coverage of modern dairy practices. An explanation of why certain practices exist, on top of how they work, could help readers understand dairy farming more accurately. Adopting two-way communication strategies, such as inviting public response by providing interactive resources, could help connect producers and consumers by mitigating misunderstandings about practices.

Overall, the results of this study indicate notable variations in how the dairy industry is portrayed across news sources. This variability highlights the role of media literacy in shaping consumer perceptions, as the news source individuals engage with may influence their understanding of the industry. The findings also suggest opportunities for dairy communicators to address gaps in coverage and respond to the prevalent framing patterns. While this study established a foundation for understanding media portrayals of the dairy industry, further research is necessary to examine the real-world implications of these findings. Future studies should explore public perception of the industry, identify areas where knowledge may need reinforcement, and provide more practical recommendations for agricultural communicators to work towards closing those gaps. We also must assess the extent to which the frames identified in this study influence public attitudes. Once the impact on public opinion is identified, we can discern what steps need to be taken to share the realities of dairy farming with consumers. By applying these insights, communicators could develop targeted strategies to enhance transparency, provide accurate information, and present a broader view of dairy's role. These efforts may contribute to maintaining public trust and ensuring the industry's long-term sustainability.

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