

The Steaks Are High: COVID-19's Impact on Direct-To-Consumer Marketing in the Oklahoma Beef Industry

Linnea Langusch
Oklahoma State University

Dwayne Cartmell
Oklahoma State University

Quisto Settle
Oklahoma State University

Follow this and additional works at: <https://newprairiepress.org/jac>



Part of the [Agricultural and Resource Economics Commons](#), [Interpersonal and Small Group Communication Commons](#), [Public Relations and Advertising Commons](#), and the [Social Media Commons](#)



This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 4.0 License](#).

Recommended Citation

Langusch, Linnea; Cartmell, Dwayne; and Settle, Quisto (2023) "The Steaks Are High: COVID-19's Impact on Direct-To-Consumer Marketing in the Oklahoma Beef Industry," *Journal of Applied Communications*: Vol. 107: Iss. 1. <https://doi.org/10.4148/1051-0834.2457>

This ACE Conference Paper is brought to you for free and open access by New Prairie Press. It has been accepted for inclusion in *Journal of Applied Communications* by an authorized administrator of New Prairie Press. For more information, please contact cads@k-state.edu.

The Steaks Are High: COVID-19's Impact on Direct-To-Consumer Marketing in the Oklahoma Beef Industry

Abstract

The COVID-19 pandemic encouraged some beef producers to market their products directly to consumers. For many consumers the idea of buying beef products from local sources is appealing. Relationship management theory framed this study, as beef producers used relationship building as a path to product promotion. This study explored Oklahoma beef producers' perceptions of changes that have occurred in direct-to-consumer marketing and consumer communications in the beef industry during the COVID-19 pandemic using semi-structured interviews. This study consisted of 16 participants found via snowball sampling. Participants were Oklahoma cattle ranchers over 18 years old who used one or more channels of direct marketing to sell beef products to consumers. Findings indicate beef producers focused on creating and maintaining relationships with customers. Many producers used social media to connect with customers due to the absence of in-person opportunities. Word-of-mouth marketing through social media and local communities brought in new customers, and as producers invested in maintaining authentic relationships with their customers, they saw increased customer loyalty. Producers focused on sharing the 'story behind the beef' to increase trust and openness in their communications with consumers. Most producers who used social media did not strategize when posting. Some producers failed to adapt to consumer needs during the pandemic and did not use social media at all which limited their customer interactions. Future research could explore consumer perceptions of beef producers during the COVID-19 pandemic to compare and assess the effectiveness of the communications between these two groups.

Keywords

COVID-19, beef, relationships, direct marketing, local food

Cover Page Footnote/Acknowledgements

This research was presented at the 2022 NACS Conference as a research poster and at the 2022 ACE Conference as a research paper.

Introduction

When the COVID-19 pandemic spread to the United States President Donald Trump declared a state of emergency on March 11, 2020, marking a dramatic lifestyle change for many Americans. Travel became restricted, businesses and schools closed, and the shift had profound impacts on the food and agricultural sectors through sudden and unexpected demand shifts as “consumers altered the amount and type of food they purchased, and where they purchased it” (Weersink et al., 2020, p. 2).

Closures of hotels, restaurants, schools, and associated institutions affected the shift in demand in significant ways (Weersink et al., 2020). Before the COVID-19 pandemic, approximately half of the American consumer food dollar was spent on meals outside of the home (Saksena et al., 2018). COVID-19 created a drastic increase in sales volumes at grocery stores, and this increase in grocery shopping created a shift in demand for the form, size, and packaging of food products (Weersink et al., 2020). Stockpiling, particularly for frozen foods and meat products, drove demand higher than expected (Weersink et al., 2020). Food production in America is a low-cost, efficient food system, but the stressors associated with the COVID-19 pandemic revealed the system cannot easily respond and adapt to disruptions in supply chains (Weersink et al., 2020).

Processing plants required time to adapt processing and distribution methods in response to the sudden and dramatic shifts in food demand, but production at the farm level had to continue due to the biological nature of production (Weersink et al., 2020). During the spring and summer of 2020, there were instances of slaughter-weight animals being euthanized due to the lack of processing options (Weersink et al., 2020). The close working conditions of meat plant workers created optimal conditions for viral outbreaks and several large meat packing facilities were forced to reduce operations or temporarily close (Weersink et al., 2020). Shutdowns lasted from mid-March through mid-June 2020 as 9.0% of U.S. meat plant workers became infected with COVID-19 (Centers for Disease Control and Prevention, 2020). These closures created a bottleneck in the meat supply chain causing a ripple effect felt by livestock producers and food retailers (Martinez et al., 2020).

In April 2020, U.S. beef production declined by one-third (USDA, 2020). The first week in May 2020 saw the worst constrained harvest with inspected steer and heifer volumes 41.0% lower than the same week in 2019 (USDA, 2020). Subsequently, livestock prices plummeted, and grocery stores and other retail food service channels experienced reduced meat product availability, which translated to elevated prices and product rationing (Tonsor & Schultz, 2020). The reduction in harvest created a surplus of live cattle and a shortage in retail beef products, so while producers were selling livestock at low costs, consumers were paying high costs in stores. June 2020 retail beef prices were 25.1% higher than prices in June 2019 (USDA ERS, 2020).

Oklahoma ranks fourth in the country for cattle inventory (USDA- NASS, 2019; USDA- NASS, 2021). Oklahoma's cattle inventory in January 2021 was 5.30 million cattle, which was an increase of 150,000 head of cattle from January 2020 (USDA- NASS, 2021). In 2020, the COVID-19 pandemic created an estimated \$13.6 billion loss in the beef cattle industry nationally (Peel & Raper, 2020). Damage to the Oklahoma cow-calf sector will total \$298.1 million in estimated losses, and implied total damages to the Oklahoma beef cattle industry was \$575 million according to Peel and Raper (2020).

Food producers experienced a boom in demand for local foods because of decreased availability of certain products, like beef, at grocery stores, concern about interacting with

crowds in traditional food retail spaces, and more time at home to prepare fresh foods (McFadden & Malone, 2020). Local food supply chains are shorter than conventional supply chains, providing a means for consumers to get closer to the production of their food and for producers to pocket more on the dollar than they would by selling at wholesale prices (McFadden & Malone, 2020). The economic impact of the supply chain bottleneck has inspired some cattle producers to consider marketing methods outside of traditional retailers. Organizations such as the Oklahoma Cattlemen's Association have created online marketplaces where consumers can seek out producers who sell meat products directly.

COVID-19 has had a historic impact on the meat industry and accentuated the country's reliance on a small number of meat packers and processing plants to feed a whole nation (Tonsor & Schultz, 2020). Cattle prices have made it difficult for producers to turn a profit in recent years, and the impacts of the COVID-19 pandemic on meat processing plants only put more strain on producers, especially small operations (Brown, 2020). High retail prices and low product availability at traditional grocery stores paired with low live cattle prices have connected producers and consumers in a new way (Tonsor & Schultz, 2020). The strain of the COVID-19 pandemic has encouraged some beef producers to try direct-to-consumer (DTC) marketing, and for many consumers, the idea of buying something locally to meet their needs is appealing (Brown, 2020). Social isolation protocols, product shortages, constrained harvest dates, and shifts in demand influenced how producers communicated with consumers and marketed their beef products directly to customers during the COVID-19 pandemic.

Purpose and Research Questions

The purpose of this study was to explore how Oklahoma beef producers who engaged in direct-to-consumer marketing perceived interactions with consumers. The following research questions framed this study:

1. During the COVID-19 pandemic how have producers altered promotional and marketing practices for direct purchases?
2. How has the relationship between producers and consumers who purchase beef directly changed since the start of the COVID-19 pandemic?

Literature Review

Direct-to-consumer marketing in the beef industry, specifically from the perspective of producers, is not well-researched (Park et al., 2014). To understand the nuance behind beef producers' marketing and communications tactics during the COVID-19 pandemic, it is essential to consider influential factors including local food demand, demand for local beef products, and marketing strategies typically used by producers marketing directly to consumers.

Local Food Demand

Demand for local food began increasing drastically in the early 2000s. Between 2002 and 2007 the number of farms using direct sales channels increased by 17.0% and sales increased by 32.0% (Low et al., 2015). Between 2007 and 2012, consumer interest in local foods plateaued, reflecting the lack of growth in direct-to-consumer sales (Low et al., 2015). This plateau could be due to growth in local food sales through intermediaries, but that value was not measured by the

Census of Agriculture in 2012 (Low et al., 2015). More recently, between 2015 and 2020, the number of farms selling local foods decreased by 12%, but direct farm sales increased by 3.0% (USDA, 2022). The USDA (2022) Local Food Marketing Practices Survey estimated in 2020 farmers sold \$9 billion in food commodities directly to consumers, retailers, institutions, and local food intermediaries.

Producers who sold food products directly to consumers did so using a variety of sales channels including farmers markets, onsite farm stores, roadside stands, Community Supported Agriculture (CSA) arrangements, online sales, pick-your-own operations, mobile markets, and other direct methods of sale (Katchova, 2016). In total, 77.0% of farms involved in direct sales participated in at least one of these direct-to-consumer sales channels. Farm sales made directly to consumers accounted for 33.0% of the local food sales total resulting in sales totaling \$2.97 billion (USDA, 2021).

Direct-to-Consumer Beef Marketing

Three sectors make up traditional beef production: cow-calf, stockers and growers, and feedlots (New et al., 2020). These different operations work as an assembly line. Cow-calf producers sell their calves at weaning to stockers. Stockers then ship calves to feedlots to reach a finishing weight before they go to harvest (New et al., 2020). Throughout time there has been an increase in interest from cow-calf producers to retain some calves to stay on the farm to be fed to harvest readiness and sold as locally finished beef (New et al., 2020).

Direct-to-consumer marketing in the beef industry has started gaining a foothold in consumer markets in the last two decades as beef has become a commodity characterized by more than just cut and marbling (Lim et al., 2018). When considering direct-to-consumer marketing sales in agriculture, livestock producers have more strict regulations than produce farmers (Goodsell et al., 2007). Katchova (2016) found beef farms represented 26.3% of farms involved in direct-to-consumer marketing, but these farms “have the highest percentage of discontinuing and entry in direct marketing as compared to other farm[s]” (p. 9). Livestock farms, particularly smaller farms, do not stay committed to direct-to-consumer marketing but rather applied variable marketing techniques based on the opportunities of a given year (Katchova, 2016).

Livestock producers tread a fine line when adding direct-to-consumer marketing to increase profits. Eastwood et al. (2004) found producers use direct-to-consumer marketing in response to low farm prices to receive retail prices rather than wholesale prices. Producers use animal growth and consumer demand to gauge how to market their animals (Gillepse, 2016). Livestock producers' need for variable marketing techniques is partially due to the marketing bottleneck present in alternative beef product sales (Lim et al., 2018). “Direct-to-consumer operations are only optimal when consumers' [willingness to pay] in these channels exceeds the additional marketing cost” (Lim et al., 2018 p. 1).

Although conventional grain-finished beef still makes up the majority of U.S. beef consumed, niche products have gained traction in the market (Shanker, 2019). Sales of grass-fed beef, the largest niche market of retail beef, reached \$480 million in 2019, resulting in a 15.0 % year-over-year growth (Shanker, 2019). Most grass-fed producers engage in at least one direct marketing strategy: one-third participate in farmers markets and online sales and most engage in at least two direct marketing outlets (Gillespie et al., 2016).

Direct-to-Consumer Local Food Marketing Strategies

The increase in demand for local foods has encouraged direct, authentic connections between food producers and consumers, reduced food distribution miles, strengthened local economies and enhanced social capital (Feenstra, 2002). Onozaka et al. (2010) found buying beef locally goes beyond providing products to customers, it also helps foster a sense of community (Onozaka et al., 2010). Buying beef directly from producers leads consumers to associate the beef with reliability and gives consumers access to knowledge (Telligmen et al., 2016).

There is a plethora of literature surrounding consumers who buy direct-to-consumer products; however, there are relatively few studies on producer behavior relating to direct-to-consumer marketing strategies (Park et al., 2014). Park et al. (2012) found a limiting factor impacting direct-to-consumer sales for livestock producers is the producer's marketing skills. Producers with more marketing skills have increased direct-to-consumer profits (Park et al., 2012). Generally, direct marketing strategies allow producers to cut out middlemen in the supply chain, giving them a better price and resulting in more income (Park et al., 2012). However, direct-to-consumer producers often do not invest in marketing assets to grow their market share of the retail dollar (Hamilton, 2018). Hamilton (2018) found producers felt most comfortable observing market trends, managing their inventory mix, and to a limited extent, social media marketing. Producers felt they needed to improve merchandising, advertising, developing marketing plans, and strengthening their brand identity (Hamilton, 2018).

Morgan et al. (2018) found farmers participating in CSA agreements had minimal strategic planning that informed their marketing strategies, and marketing decisions were often based on trial and error. Farmers offering CSA products had socially minded motivations, trying to improve access to nutritious foods and help form connections between producers and consumers (Morgan et al., 2018). Farmers gained customers through farm visits, chats during product pick-ups, newsletters, and social media (Morgan et al., 2018). Farmers markets provide producers an opportunity to sell directly to consumers with the shared cost of a skilled marketer across all vendors (Hamilton, 2018). However, most farmers market managers limit promotions to flyers and Facebook posts because lack of funding fails to compensate past basic marketing techniques (Hamilton, 2018).

Social networks and word-of-mouth marketing were seen as the most valuable mechanisms for recruiting new customers (Morgan et al., 2018). Word-of-mouth marketing refers to "direct and informal communication between individuals who possess a social relationship" and is key to connecting customers and producers (Dougherty & Green, 2011, p.2). The diverse array of communications technologies available today has expanded word-of-mouth distribution to include text messages, emails, phone calls, social media posts, and other virtual communications (Dougherty & Green, 2011). Zepeda, (2009) found producer marketing emphasized freshness, environmental benefits, and support for local farmers, but these strategies may do little to bring in new customers.

Schmit et al. (2019) found including price in messaging and building relationships with customers to be priorities of local food customers. Goodwin (2013) found contributing factors affecting consumers' intention of buying local food include, price, convenience, trust in the producer, availability, and awareness. Hamilton (2018) found the most impactful marketing techniques revolve around developing a clearly defined market niche, adding value through strong brand identity, convenience, and customer choice, and acting on current trends in local

food markets. The next generation of local food customers is emerging with different needs and expectations, and to stand out in an increasingly competitive sector, farmers need to shift marketing strategies to meet evolving needs and expectations of consumers (Schmit et al., 2019).

Online and Social Media Marketing

The social isolation protocols implemented during the COVID-19 pandemic impacted producers' access to traditional marketing channels like farmers markets and agritourism operations, shifting promotional focuses online. Online meat sales are a recently expanding marketing channel (Lim et al., 2018). In 2020, online sales accounted for 10.5% of direct-to-consumer sales on U.S. farms compared to 6.0% in 2015 (USDA NASS, 2016, 2020).

Reliable internet access increases the likelihood a farm participates in direct-to-consumer sales and increases the farm's level of sales (Aheran et al., 2018; Low & Vogel, 2011; Uematsu & Mishra, 2011). Ahearn et al. (2018) found internet use had a positive impact on direct-to-consumer marketing performance by providing information for both producers and consumers. The percentage of farms with internet access increased from 57.0% in 2007 to 75.0% in 2017 (Whitacre et al., 2014). Despite the increase in available broadband in recent years, internet speed and reliability in rural areas remains spotty, inhibiting some farmers from participating in online marketplaces requiring high-speed internet (FCC, 2018; Ohara & Low, 2020).

Qu et al. (2017) found sharing short videos focused on local food's high quality and support for the local economy effectively increased consumers' favorable attitudes toward local food. Posting videos online is imperative for the message to be reproduced and shared, reaching large audiences quickly (Qu et al., 2017). Direct experiences with local food are more impactful than communication materials for shaping consumer understanding and beliefs, but the framing of communications does influence how those beliefs are shaped (Qu et al., 2017).

Social media has become a primary form of communication creating a two-way dialogue with consumers allowing the formation of meaningful connections instead of a one-directional channel of information (Rutasert et al., 2013). White et al. (2014) found one of the main contributing factors for agriculturalists joining social media was to combat negative information about production agriculture. Farmers use social media on a personal level to share their stories, answer consumer questions, and promote their products (White et al., 2014). Rumble (2016) found communicating about agriculture with higher perceived communicative transparency increased positive attitudes from the audience.

King and Settle (2020) found most agricultural Facebook pages to be connected to meat livestock operations, with 73.1% conventional and 26.9% alternative operations. King and Settle (2020) also found a quarter of the pages had not posted within six months. Bowman et al. (2018) found less than half of agritourism Facebook pages contained a community post, event post, or event. When resources are limited, creating at least one original post, encouraging customers to leave reviews and posts about their experiences, and developing Facebook advertisements had the biggest impact on page interaction (Bowman et al., 2020).

Theoretical Framework

Relationship management theory suggests centering public relations around establishing and maintaining two-way relationships (Ledingham & Bruning, 1998). There are four fundamental developments within the relational perspective framework of public relations: 1)

recognizing relationships as the central role in public relations; 2) approaching public relations as the management of relationships; 3) identifying types of organization-public relationships and their connection to public attitudes, knowledge, perceptions, behaviors, and relationship strategies; and 4) constructing models for organization-public relationships that consider relationship backgrounds, processes, and consequences (Ledingham, 2003). Shared goals and interests are essential for the success of organization-public relationships (Ledingham, 2001). When focusing on relationships from a public relations role, one must account for changes in relationships that naturally occur throughout time (Ledingham, 2003).

Five dimensions found central to interpersonal and marketing relationships include trust, openness and authenticity, involvement, investment, and commitment to each other's well-being (Ledingham & Bruning, 1998). When customers rank an organization highly on all five dimensions, they are more likely to express high levels of satisfaction and remain loyal to the organization when presented with competitive alternatives (Ledingham & Bruning, 1998). Another important element in maintaining healthy relationships is establishing and maintaining clear expectations between both parties to avoid damaging the relationship (Ledingham, 2001).

Relationship management theory applies to the purpose of this study through the simultaneous focus on beef producers' marketing tactics and their relationships with consumers. As the COVID-19 pandemic created instability in meat markets and shifted consumer focus to local beef products, producers were presented with the opportunity to promote their products and focus on establishing relationships with customers. Beef producers selling their products directly to consumers inherently have a closer relationship with their customers than producers selling through conventional market channels because they are responsible for the production, marketing, and distribution of their products. Appealing directly to consumers' wants and needs is central to the success of direct-to-consumer marketing, and producers use the relationship-building dimensions within the relationship management theory to connect their products to consumer desires.

Methods

A qualitative approach was used for this study to explore the various perspectives of Oklahoma beef producers selling direct-to-consumers. Data yielded from qualitative research methods provides more detailed and specific results, providing the researcher with a deeper understanding of the observed subject (Flick, 2011). This study used semi-structured interviews to collect data one-on-one with participants via Zoom due to COVID-19. Semi-structured interviews are "linked to the expectation that the interviewed subjects' viewpoints are more likely to be expressed in an openly designed interview situation than in a standardized interview or questionnaire" (Flick, 2011 p. 150).

Literature focusing on direct-to-consumer marketing in the agricultural sector and the impact the pandemic had on the beef industry informed the development of the interview guide. The interview guide included open-ended questions to allow respondents to elaborate on their interactions with consumers and marketing techniques since the start of the COVID-19 pandemic. Interviews revolved around open-ended questions to allow participants to share their experiences uninhibited by the researcher's perspectives (Creswell, 2018). Questions were asked about production practices, sales, marketing techniques, social media usage, online presence, urban and rural consumer interest, and communications with consumers during the COVID-19 pandemic.

The target population for the study was beef producers in Oklahoma over the age of 18 who market their products directly to consumers. Direct marketing included on-the-hoof sales, the sale of halves, wholes, and quarters, retail through farmers markets, and other private retail distribution methods such as social media, websites, on-farm stores, or delivery services. Table 1 describes participants selling direct-to-consumer beef. Purposive sampling was used to achieve the goal of 15 to 20 interviews, which is when data saturation was reached. Snowball sampling led to a total of 16 completed interviews. One interview was not completed due to internet complications, and the results from that interview are not included in the findings of this study.

Table 1

<i>Description of Participants</i>				
Pseudonym	Operation Location	Operation Type	Years Selling DTC	Sales Radius
Alice	South Central Oklahoma	Commercial	2	Nationwide
Brenda	Central Oklahoma	Commercial	1	Nationwide
Charles	Northeast Oklahoma	Commercial	16	Nationwide
Cooper	Western Oklahoma	Commercial, cow-calf	22	Nationwide
Denise	Central Oklahoma	Commercial	1	~ 50 miles
Emily	Western Oklahoma	Regenerative farming operation	1	All of Oklahoma and parts of Texas
Georgia	Northeast Oklahoma	Cow-calf	30+	~ 70 miles
Jim	Central Oklahoma	Show cattle, stocker cattle	20	~ 50 miles
Joe	Central Oklahoma	Cow-calf, butcher operation	2	All of Oklahoma
Lauren	Southwest Oklahoma	Stocker cattle	10-15	~ 30 miles
Matt	North Central Oklahoma	Stocker cattle	8	All of Oklahoma
Mike	Central Oklahoma	Commercial, cow-calf	3	Mostly local
Paul	Central Oklahoma	Commercial	3	All of Oklahoma
Sam	Northeast Oklahoma	Show cattle, stocker cattle	35	~ 70 miles
Steve	Western Oklahoma	Commercial, cow-calf	15	~ 75 miles
Tim	Central Oklahoma	Commercial	10-12	~ 40 miles

The analysis process began while conducting interviews, and notes were taken while conducting interviews (Rowley, 2012). Transcriptions of these meetings were automatically created from the Zoom audio files. These files were listened to and cleaned up for accuracy. After interviews were conducted, each interviewee was assigned a pseudonym, and all identifiable information was removed to ensure confidentiality. Transcriptions were sent to participants as a member check to ensure consistency. After ensuring transcripts were accurate, semantic codes (i.e., expressed verbally) and latent codes (i.e., underlying meanings) were applied to the data to sort, label, and compare data (Flick, 2018, p. 475). Glaser's Constant Comparative Method (1965) guided this study's data analysis along with thematic analysis (Braun & Clark, 2006). Thematic coding involves analyzing data "in a comparative way for certain topics after case studies, [like an interview]" (Flick, 2009, p. 474). Incidents in each interview were coded and compared with incidents found in other interviews (Glaser, 1965) and sorted into themes using MAXQDA coding software.

Trustworthiness poses as an essential element when evaluating a research study's worth (Lincoln & Guba, 1985). The validity of this study was evaluated based on the establishment of credibility, transferability, dependability, and confirmability. Credibility refers to a level of confidence in the accuracy of a study's findings (Lincoln & Guba, 1985). A faculty member and industry expert with a background in communications and qualitative research reviewed the interview guides to help ensure credibility. The member check also helped ensure credibility (Creswell, 2018). Transferability refers to the applicability of the study's findings in other contexts (Lincoln & Guba, 1985). The methods section provides a detailed description of data collection methods and analysis to ensure transferability. Dependability shows the results of the study are consistent and traceable (Lincoln & Guba, 1985). Auditing processes are followed to check dependability by creating trails to document the research process (Flick, 2009). An external reviewer with expertise in qualitative research conducted an audit trail including interview notes and audio files from Zoom to confirm results of this study were representative of the interviewees' responses and not the researcher's bias. Confirmability refers to the neutrality of the data or the extent to which the findings are shaped by the interviewees and not the researcher's bias or motivation (Lincoln & Guba, 1985). Confirmability was established when credibility, transferability, and dependability were all achieved (Lincoln & Guba, 1985).

Researcher Subjectivity

Linnea Langusch is an agricultural communications faculty member. She has an undergraduate degree in animal science. Quisto Settle is an agricultural communications faculty member. He has an animal science undergraduate degree and grew up in the livestock industry. Dwayne Cartmell is an agricultural communications faculty member. He has an undergraduate and graduate degree in agriculture fields.

Results

RQ 1: During the COVID-19 Pandemic How Have Producers Altered Promotional and Marketing Practices for Direct Purchases?

To understand how the COVID-19 pandemic has impacted how producers market their beef products, participants were asked about their social media usage and other marketing

techniques used to promote their beef. The following themes were generated from participant responses: social media has brought in new customers, word of mouth continues to bring loyal customers, high-quality beef products lead to repeat customers, and producers aren't advertising because they can't keep up with demand.

Social Media Has Brought in New Customers

When asked about social media usage, most respondents noted Facebook and Instagram as methods of reaching new consumers during COVID-19. Alice, who found her operation growing through Facebook and Instagram, worked to establish connections with new followers, forming trust that often led to repeat customers. She said:

In our two years, we've gone from zero followers [on Instagram] to a little over six thousand followers. And every day we show a little bit about what we're doing on the ranch or about cooking beef or, you know, just anything that relates to it. And that's where we found most of our customers.

Brenda uses Facebook and Instagram to promote beef products and expressed surprise at the new interactions on Facebook since the start of the pandemic. She said, "I've been shocked because I'm more of an Instagram geared person, but, um, you know, my mom's generation is more Facebook, and I've been shocked at the, um, I guess the interaction we've had there."

Word-of-Mouth Continues to Bring Loyal Customers

Participants found even though social media broadened their reach to new customers, word-of-mouth also led to a constant stream of demand even when face-to-face interaction was limited during the pandemic. Steve uses social media to market beef products but found Facebook guidelines to be restrictive when promoting animal products, locking him out of his account. He found word-of-mouth to be the most successful marketing method during the pandemic. Steve said, "Word-of-mouth is number one. Um, two's probably Facebook. I hate that because I got put in Facebook jail this morning." Sam said the quality of his beef brings enough repeat business to keep his operation busy. He said, "Really, word-of-mouth and quality of the product sells itself."

High-Quality Beef Products Lead to Repeat Customers

When asked about promoting local beef products, many producers believe that the difference in quality from grocery store retail meats will lead to long-term customers even after the effects of COVID on the beef industry have died down. Respondents also use the quality of their product as a marketing tactic. Sam has had repeat business for decades due to the quality of his beef products. He said, "If anybody ever eats one of our steaks, they're hooked. It's like a drug. And we've got some customers I can think of right now that we've had for about 30 years. They buy one every year." Matt experienced a surge of new customers who had considered buying beef shares before but never pulled the trigger until COVID-19, and his operation already has new repeat customers. He said:

I think people are hopefully buying beef this way. I think you're getting a lot of, or at least I am, already getting repeat customers next year because they just never bit the bullet and bought beef this way and once they did, you know, COVID kind of pushed

them into that, and then now that they've done it, they realized that it's actually cheaper in a way, and way better products. So, I think that a lot of people did buy beef that, you know, have never thought about it or done it. And I think you're going to see a lot of people sticking with it, just because they realize how much better it is.

Charles also found through his interactions with consumers since the start of COVID-19 that people are more concerned about high-quality products and learning about how their food is being produced. He said:

I think everybody is starting to learn that when you're going to the grocery stores and you're going to, you know, even like...you're Sam's, your Costco, is you're not sure what you're getting there....and I think a lot of people nowadays are getting more to where they want to know what they're [getting]. I mean, they don't want to eat all their meat full of, you know, drugs, basically, and they want to know that they're getting a quality product, and that's where I think the local ranchers and farmers are going to benefit from that because I think it's going to continue that way down the road.

When asked if there was a consumer shift in preference between local beef versus store-bought since the start of the pandemic, Steve said:

Mid-summer, late summer, I'm sitting here thinking, uh, we may have saw a fad. Uh, it was the buzzword, it was the cool thing to do. Everybody's home with nothing else to do. So, let's talk about it now. Uh, I feel like maybe there was a little consumer shift too. This open my eyes to be prepared, to have the freezer stocked, to plan ahead. And, but one of the cool things about it is once they, once they get our beef and they get a taste of it, they're like, 'Oh, this is so much better.'

Producers Aren't Advertising Because They Can't Keep Up with Demand

Tim primarily sells his beef products at his feedstore and farmers' markets. His operation has a Facebook page where they promote their products, but during COVID-19 their use of social media promotions has decreased. He said:

I haven't been advertising much at all on beef this year, not even putting it on Facebook when we'll have it available because we can't keep it in stock. You know, we'll get a beef processed and offer it for sale in a couple of markets and we're out again. We just put on Facebook that we have beef processed, and we have T-bones or rib-eyes or roast available, whatever we're long on. That's what we'll tell them we have.

When asked if any new promotional or marketing practices were implemented in his operation since the start of COVID-19, Sam said:

No, [I'm] scared to because [I] don't have enough...this weekend we'll be weaning calves for butcher cattle for next year. So, you know, the only thing that this is probably done is, I think we may start doing them twice a year, instead of harvesting one time a year, which means that I'll have butcher cattle year-round, that I'm taking care of.

RQ 2: How Has the Relationship Between Producers and Consumers Who Purchase Beef Directly Changed?

To understand how the COVID-19 pandemic has impacted relations and communications between beef producers and consumers, participants were asked how their communications have changed with consumers. The following themes were generated from participant responses:

consumers are more aware of where their food comes from, consumers are reaching out due to decreased availability in traditional grocery stores, and producers are focusing on educating consumers on public platforms.

Consumers Are More Aware of Where Their Food Comes From

When participants were asked how they believed consumer attitudes toward direct-to-consumer beef have changed since the start of COVID, many respondents mentioned that consumers are more aware of where their food is coming from or want to learn the “story behind the beef.” Alice found developing connections with new followers through social media established a kind of trust that has so far translated into a loyal customer base. She said:

Most people that I find that I talked to on Instagram or Facebook or whatever. They want to trust farmers and ranchers. They want to know where their food comes from. And so, I would say that developing that trust is a huge factor. They feel like they know us and where it comes from. And so, I would say through social media and then definitely through developing my email list so that we can connect with them directly because you can't always depend on the algorithms of Facebook and Instagram.

As availability became scarce in stores, Mike saw an increase in demand for his local beef products. Mike said:

With the shortage in the stores and then the price increases in the stores, I don't know, [it] made people aware of the systems that are in place and made them aware that they can go directly to the farm.

Sam found that consumers are more interested in learning about beef production since the start of COVID-19. He said:

I think it's helped our beef industry because people are wanting to know where their beef comes from, they do want to know...I think homegrown beef is here to stay, especially from producers that are in it for the long haul.

Consumers Are Reaching Out Due to Decreased Availability in Traditional Grocery Stores

When asked about the decreased availability in grocery stores, participants noted many of their new customers reached out due to limited availability at traditional shopping places. Denise said:

People are just kind of realizing that, you know, something can happen that they may not be able to get out and go get whatever they need... I'm hoping it's reassuring that you know the farmers or ranchers are still here, they're still working, they're still doing what they're doing. So, you know, regardless of what's going on. I think that's still going to continue, and I think it helps the consumers to know that.

Lauren also had an increase in interest in her operation when beef products became scarce, and prices rose. She said, “I do think...when they couldn't get things from the store that was an eye-opening experience.”

Cooper brought up food security as a reason for the increased interest in local beef products during COVID. He said:

People were concerned about where their food sources come from. And they wanted to make sure that they had food security and that they had food to feed their family. So, by

buying a quarter or a half a beef, half a beef will last a family of five all year long. And so there they will have a relatively secure [protein source].

Alice had the opportunity to talk about her operation and the nationwide beef shortage on a news channel. After, she had people across the U.S. reaching out to her about her operation, and she saw sparked consumer interest in terms of direct-to-consumer sales. She said:

I would say that COVID definitely has shifted the interest on the agricultural industry.... I think that COVID really has highlighted problems that we've had in the agriculture industry [for a long time]. It's also highlighted how necessary people in agriculture are not just beef, but everything.... you know, we take our food supply for granted until something like this happens.

Producers Are Focusing on Educating Consumers on Public Platforms

When asked how participants used their social media for promotions and marketing, many participants mentioned educating consumers on day-to-day farm activities, how to cook beef products, recipes, and more. Denise began selling direct-to-consumer to educate the public and open her farm to the public and COVID-19 has had a positive impact on her interactions with consumers. She said:

We kind of started doing this to, you know, let the people come and see how things are done, ask questions and, you know, just kind of give it a little bit more positive base than what people say just online. You know there's differences between the actual and what you see in videos.

Joe's operation has started sharing information about different cuts of beef, the processing process, and life on the farm on social media since the start of the pandemic. He said:

The consumer is actually, they're realizing that a beef isn't all ribeye, you know, every person always thinks, oh, you know, we just want 500 pounds of ribeyes. Well, you have to kill a lot of animals to get that, that many ribeyes.

Paul has seen more interest from consumers in learning more about the production behind beef since the start of the pandemic. He said:

[They]...see a better product overall compared to what they can find at a grocery store because they're able to relate with the producer on a different level, and they're able to actually ask questions based on where it was, where was it farmed, what were the feeding practices, they're able to actually ask the producer, all of these different questions that you're not able to find in a supermarket. So that's what I would call story beef.

Conclusions

The purpose of this study was to assess how the COVID-19 pandemic impacted the marketing and communications used by beef producers who sold their products directly to consumers. Results from this study indicate beef producers desire to build relationships with consumers, which relationship management theory suggests is the hallmark of public relations (Ledingham & Bruning, 1998). Many producers noted in the absence of in-person contact during the early months of the COVID-19 pandemic, social media platforms such as Facebook and Instagram allowed them to continue fostering relationships with consumers. Beef producers established a two-way channel of communication using social media platforms to highlight day-to-day activity on the farm, show the process of buying beef in bulk, share family recipes,

discuss issues relating to the current state of food production, and interact with consumers. This aligns with previous research stating agriculturalists join social media to combat negative information, share their stories, answer consumer questions, and establish meaningful connections (Rutasert et al., 2013; White et al., 2014;).

During the COVID-19 pandemic cattle producers saw a dramatic increase in interest relating to local beef products and stepped up to meet the demand by focusing their communications on openness and authenticity, both of which are core dimensions of relationship management theory. Interactive tools such as Facebook or Instagram live sessions and stories allowed producers to show consumers how their food was being produced and get to know the people behind the beef through video content. Producers saw a positive response from consumers, which aligns with Qu et al. (2017) who found short videos focused on high-quality products and supporting the local community increased consumers' favorable attitudes toward local food.

Communicating openly with customers got them through the door, and as the producer and consumer both invested in maintaining a relationship, feelings of trust emerged and educational content on farm life and beef products were well received. Producers showed commitment to consumers' wellbeing by staying involved and invested through the process of buying beef in bulk, picking out high-quality cattle for on-the-hoof sales, going out of their way to help with deliveries and setting up freezers, providing high-quality beef products when grocery store shelves were bare, and sharing family recipes when consumers did not know how to prepare uncommon cuts of beef. Producers felt a sense of community as customers bought beef in support of the local economy. Involvement, openness, investment, trust, and commitment to one another's wellbeing are all central dimensions when forming and maintaining relationships (Ledingham & Bruning, 1998). When customers experience all these core dimensions, they have higher levels of satisfaction and loyalty (Ledingham & Bruning, 1998). Producers noted as they built relationships with customers, they saw an increase in loyal, repeat customers.

Most producers posted on social media with no planned strategy, which aligns with findings from Morgan et al. (2018) who also found most producers based their marketing strategies on trial and error. Some producers were not well versed in how to properly post on social media platforms, as illustrated by one producer who kept finding themselves in 'Facebook jail' or suspended for improper use of the platform. While some producers posted on social media often, many posted infrequently or sporadically, which aligns with past research that shows beef producers post infrequently on Facebook (King & Settle, 2020). When communications and online presence are sparse and infrequent, it can make it difficult for producers to maintain the two-way relationship that is pivotal in relationship marketing (Ledingham & Bruning, 1998). During the early months of the COVID-19 pandemic, producers saw online engagement and interest was higher than usual no matter when or how they posted about their operation and their beef products, which conflicts with research that suggests marketing skills and strategy impact the success of the producer in selling local food products (Hamilton, 2018; Park et al., 2012). Several producers had to stop marketing their beef products on social media for extended periods because they could not keep up with the dramatic spike in demand that ensued.

Most producers used some form of social media to connect with consumers. Some producers created social media accounts due to the isolation of the COVID-19 pandemic, some began using neglected pages more frequently. This aligns with previous research that found

when resources are limited, to a limited extent producers feel comfortable posting on social media to connect with customers (Hamilton, 2018). However, a small number of producers did not use social media or digital marketing at all. Before the COVID-19 pandemic, these producers relied on customer interactions through farmers markets, on-farm stores, and roadside stands to build relationships with customers. As these opportunities diminished during the COVID-19 pandemic, so did their interactions with customers. These producers focused more on maintaining relationships with previous customers and relied on word-of-mouth marketing to bring in new customers. This highlights the importance of the Schmit et al. (2018) recommendation that farmers need to shift their marketing strategies to meet the evolving needs of consumers. When managing relationships with customers, producers must adapt their communications and relationship-building strategies to these naturally occurring changes (Ledingham, 2003). As consumers also lost access to in-person opportunities to find local food many shifted to searching online, and the beef producers who evolved with consumers found a plethora of customers interested in their products.

Word-of-mouth marketing was a prominent part of customer recruitment for all producers, which aligns with Dougherty and Green (2011) who found word-of-mouth marketing was key in connecting producers and customers. However, producers who used social media as an extension of word-of-mouth marketing were able to communicate more consistently to broader audiences and share their stories more authentically with visual media. Authenticity across all methods of communication is essential in successful relationship management (Ledingham & Bruning, 1998). Morgan et al. (2018) also found that local food producers saw social networks and word-of-mouth marketing as their most valuable strategies for recruiting new customers.

Decreased beef product availability and high prices in traditional retail food centers were the driving force for new customers reaching out and establishing contact with farmers and ranchers. As beef producers began promoting their local beef products during the COVID-19 pandemic they considered consumers' current attitude toward the beef industry, their desire to learn about local beef, and potential purchasing behavior. Identifying these desires, attitudes, knowledge, and behaviors is a fundamental development within relationship management (Ledingham, 2003).

Beef producers focused on establishing clear expectations with new customers on the up-front cost of buying beef in bulk, product availability, the storage space required, and the quality standards the producers held for their beef products. Establishing clear expectations is essential in establishing and maintaining healthy relationships (Ledingham, 2001). Price, convenience, trust in the producer, and availability affect consumers' intention of buying local food (Schmit et al., 2019). As consumers began forming relationships and establishing trust with producers, many became repeat customers, and the high up-front cost of buying local beef in bulk became less of a roadblock for customers. Social media allowed producers to establish and maintain relationships outside of their communities, and when those consumers became customers and invested in local beef products, the high quality stood out from grocery store products. When customers feel producers are trustworthy, open, involved, invested, and committed to the customer's well-being, they express high levels of satisfaction and remain loyal customers, even when faced with competitive alternatives (Ledingham, 2001).

The COVID-19 pandemic opened communications between producers and consumers from beef producers' perspectives. As more consumers began reaching out to producers inquiring about local beef products, producers found part of what kept these consumers engaged

customers was the story behind the beef. Producers used this newly engaged group of consumers to discuss hot-button issues relating to agriculture and the beef industry, and give consumers a raw, unedited look at how their steaks are raised. By acknowledging consumers' attitudes, knowledge, and perceptions producers were able to appeal to consumers in a relatable way, enhancing the effectiveness of relational promotion (Ledingham, 2003). Tyng together the story behind the beef with high-quality beef products set these producers apart from the traditional grocery store experience.

Recommendations

Local beef producers should focus on establishing meaningful connections and long-lasting relationships with consumers. Opening the two-way channel of communication allows producers to hear their customer's hesitations, questions, and concerns and learn how to address them most effectively. Social media is a powerful tool for producers to cast a broad net for new customers, especially in times of market instability. Although many producers found success selling beef products using no marketing strategy during the early months of the COVID-19 pandemic, producers should not count on 'no strategy' as a strategy moving forward. Consumers need predictable, reliable communication to maintain meaningful relationships with producers (Ledingham & Bruning, 1998). When traditional food centers and grocery stores had high prices and empty shelves, consumers turned right to the source, the producers who grew their food. However, the results of this study contradict previous research stating that marketing skills and strategies heavily influence the success of local food producers (Park et al., 2012). The COVID-19 pandemic created a unique opportunity for local beef producers to capitalize on a seemingly unending demand for local beef, however as the food supply chain levels out and retail competition bounces back, producers will need a strategy to capitalize on the spike of interest in local beef products and keep the momentum going.

Local beef producers must prioritize being intentional and invested in their communications to maintain all dimensions of healthy relationships, or risk losing loyal customers (Ledingham & Bruning, 1998). Highlighting the high quality and availability of local beef products is an effective way to appeal to customers. Maintaining relationships with customers leads to word-of-mouth referrals, which is a powerful recruitment tactic for new customers. As recommended by relationship management theory (Ledingham & Bruning, 1998), producers can keep authenticity and transparency at the heart of their communications, and video and interactive social media tools help producers tell their stories. Social media strategy should focus on creating an open conversation between producers and consumers and posting consistent content with a purpose behind the messaging. Producers can create this content by featuring behind-the-scenes footage of daily farm life, the process of buying beef in bulk, perspectives on current issues relating to food production, and the impact local food sales have on communities. Online training sessions, workshops, and guides should be developed to help local beef producers interact on social media platforms appropriately and strategically. Adapting communications and relationship management strategies is essential to maintain successful relational promotions (Ledingham, 2003).

Future research should evaluate consumer perspectives of Oklahoma beef producers' response to the pandemic. A comparison of producer perspectives from this study and consumer perspectives could reveal how effective current channels of communication between the two parties are at transmitting information and establishing meaningful relationships. More research

should be done on the tools producers need to learn how to market their products directly to consumers. There are many resources available for producers to learn marketing strategies, but each of those tools needs to be assessed to determine if they are accessible, effective, and current in the quickly evolving world of digital media. Additionally, conducting a similar study a few years from now could provide some context on the longevity of COVID-19's impact on the Oklahoma beef industry and the demand for local beef products.

References

- Ahearn, M. C., Liang, K., & Goetz, S. (2018). Farm business financial performance in local foods value chains. *Agricultural Finance Review*, 78(4), 470-488. <https://doi.org/10.1108/AFR-08-2017-0071>
- Bowman, B. L., Settle, Q., & Tomas, S. (2020). Facebook Activity of Oklahoma Agritourism Facebook Pages. *Journal of Applied Communications*, 104(2). <https://doi.org/10.4148/1051-0834.2296>
- Centers for Disease Control and Prevention (2020). Update: COVID-19 among workers in meat and poultry processing facilities – United States, April–May 2020. Centers for Disease Control and Prevention. <https://www.cdc.gov/mmwr/volumes/69/wr/mm6927e2.htm>.
- Creswell, J. W. & Poth, C. N. (2018). Qualitative inquiry and research design choosing among five approaches (4th ed.). SAGE Publications, Inc.
- Dougherty, M. L., & Green, G. P. (2011). Local food tourism networks and word of mouth. *Journal of Extension*, 49(2), 1-8. https://archives.joe.org/joe/2011april/pdf/JOE_v49_2a5.pdf
- Eastwood, D.B., Brooker, J.R., Hall, C.R., & Rhea, A. (2004). Small produce growers' marketing behaviors: A case study in Tennessee. *Journal of Food Distribution Research*, 35, 57–64. <https://doi.org/10.22004/ag.econ.27138>
- Feenstra, G. W. (2002). Creating space for sustainable food systems: Lessons from the field. *Agriculture and Human Values*, 19(2), 99-106. <https://doi.org/10.1023/A:1016095421310>
- Flick, U. (2009). An introduction to qualitative research (4th ed.). SAGE Publications.
- Flick, U. (2018). An introduction to qualitative research (6th ed.). SAGE Publications.
- Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social Problems*, 12(4), 436–445. <https://doi.org/10.2307/798843>
- Gillespie, J., Sitienei, I., Bhandari, B., Scaglia, G. (2016). Grass-fed beef: How is it marketed by US producers? *International Food Agribusiness Management Review*, 19, 171–188. <https://doi.org/10.22004/ag.econ.234961>

- Goodsell, M., T. Stanton, & J. McLaughlin. (2007, March). A resource guide to direct marketing livestock and poultry. <https://hdl.handle.net/1813/40257>
- Goodwin, I. N. (2013). *Local choice* (Research Report). Center for Public Issues Education in Agriculture and Natural Resources. <http://www.pieccenter.com/wp-content/uploads/2014/05/FDACS-Local-Choice-Report-FINAL.pdf>
- Govindasamy, R., & Nayga, R. (1997). Determinants of farmer-to-consumer direct market visits by type of facility: A logit analysis. *Agricultural and Resource Economics Review*, 26(1), 31-38. <http://doi.org/10.1017/S1068280500000812>
- Govindasamy, R., Hossain, F., & Adelaja, A. (1999). Income of farmers who use direct marketing. *Agricultural and Resource Economics Review* 28(1), 76–83. <https://doi.org/10.22004/ag.econ.31493>
- Grunspan, D. Z., Wiggins, B. L., & Goodreau, S. M. (2014). Understanding classrooms through social network analysis: A primer for social network analysis in education research. *CBE—Life Sciences Education*, 13(2), 167-178. <https://doi.org/10.1187/cbe.13-08-0162>
- Gwin, L. (2009). Scaling-up sustainable livestock production: Innovation and challenges for grass-fed beef in the US. *Journal of Sustainable Agriculture*, 33(2), 189–209. <https://doi.org/10.1080/10440040802660095>
- Katchova, A. L., Demko, I., & Vogel, S. (2016). *Direct-to-consumer marketing by US farms*. 149th EAAE Seminar ‘Structural Change In Agri-Food Chains: New Relations Between Farm Sector, Food Industry And Retail Sector’, Rennes, France, 2016. <http://doi.org/10.22004/ag.econ.245163>
- King, E. H. A., & Settle, Q. 2020. Examining the social properties of Oklahoma agricultural Facebook pages: A quantitative content analysis. *Journal of Applied Communications*, 104(4). <https://link.gale.com/apps/doc/A648909183/AONE?u=anon~cd8e0b7d&sid=googleScholar&xid=ddaeff75>
- Ledingham, J. A. (2001). Government-community relationships: Extending the relational theory of public relations. *Public relations review*, 27(3), 285-295. [https://doi.org/10.1016/S0363-8111\(01\)00087-X](https://doi.org/10.1016/S0363-8111(01)00087-X)
- Ledingham, J. A. (2003). Explicating relationship management as a general theory of public relations. *Journal of public relations research*, 15(2), 181-198. https://doi.org/10.1207/S1532754XJPRR1502_4
- Ledingham, J. A., & Bruning, S. D. (1998). Relationship management in public relations: Dimensions of an organization-public relationship. *Public relations review*, 24(1), 55-65. [https://doi.org/10.1016/S0363-8111\(98\)80020-9](https://doi.org/10.1016/S0363-8111(98)80020-9)

- Lev, L., & Gwin, L. (2010). Filling in the gaps: Eight things to recognize about farm-direct marketing. *Choices, Agricultural and Applied Economics Association*, 25(1). <https://www.jstor.org/stable/10.2307/choices.25.1.04>
- Lim, K. H., Vassalos, M., & Reed, M. (2018). Point-of-sale specific willingness to pay for quality-differentiated beef. *Sustainability*, 10(7). <http://doi.org/10.3390/su10072560>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Sage.
- Low, S.A., & S. Vogel. (2011). Direct and intermediated marketing of local foods in the United States. U.S. Department of Agriculture, Economic Research Service (ERR). Economic Research Report No. 128. https://www.ers.usda.gov/webdocs/publications/44924/8276_err128_2_.pdf?v=0
- Low, S. A., Adalja, A., Beaulieu, E., Key, N., Martinez, S., Melton, A., Perez, A., Ralston, K., Stewart, H., Suttles, S., Vogel, S., Jablonski, B.B.R. (2015). Trends in U.S. Local and Regional Food Systems. U.S. Department of Agriculture, Economic Research Service. AP-068. https://www.ers.usda.gov/webdocs/publications/42805/51173_ap068.pdf
- Martinez, C.C., Maples, J.G. & Benavidez, J. (2020). Beef cattle markets and COVID-19. *Applied Economics Perspective Policy*, 43(1), 304-314. <https://doi.org/10.1002/aep.13080>
- Meijboom, F., Visak, T., & Brom, F. (2006). From trust to trustworthiness: Why information is not enough in the food sector. *Journal of Agricultural and Environmental Ethics*, 19(5), 427-442. <http://doi:10.1007/s10806-006-9000-2>
- Morgan, E. H., Severs, M. M., Hanson, K. L., McGuirt, J., Becot, F., Wang, W., ... & Seguin, R. A. (2018). Gaining and maintaining a competitive edge: evidence from CSA members and farmers on local food marketing strategies. *Sustainability*, 10(7), 2177. <https://doi.org/10.3390/su10072177>
- O'Hara, J.K., & S.A. Low. (2016). The influence of metropolitan statistical areas on direct-to-consumer agricultural sales of local food in the Northeast. *Agricultural and Resource Economics Review* 45(3), 539–62. <https://doi.org/10.1017/age.2016.7>
- O'Hara, J., & Low, S. (2020). Online sales: A direct marketing opportunity for rural farms? *Journal of Agricultural and Applied Economics*, 52(2), 1-18. <http://doi.org/10.1017/aae.2019.44>
- Peele, D. (2021). Beef supply chains and the impact of the COVID-19 pandemic in the United States. *Animal Frontiers*, 11(1), 33-38. <https://doi.org/10.1093/af/vfaa054>
- Qu, S., Lamm, A. J., Rumble, J. N., & Telg, R. W. (2017). The effects of online video on consumers' attitudes toward local food. *Journal of Applied Communications*, 101(4). <https://doi.org/10.4148/1051-0834.1841>

- Rumble, J., & Irani, T. (2016). Opening the doors to agriculture: The effect of transparent communication on attitude. *Journal of Applied Communications*, 100(2). <http://doi:10.4148/1051-0834.1030>
- Rowley, J. (2012). Conducting research interviews. *Management research review*, 35(3-4) 260-271. <https://doi.org/10.1108/01409171211210154>
- Rutsaert, P., Pieniak, Z., Regan, Á., McConnon, Á., Kuttischreuter, M., Lores, M., & Verbeke, W. (2014). Social media as a useful tool in food risk and benefit communication? A strategic orientation approach. *Food Policy*, 46, 84-93. <https://doi.org/10.1016/j.foodpol.2014.02.003>
- Shanker, D. (2019, May). Most grass-fed beef labeled 'product of U.S.A.' is imported. Bloomberg. <https://www.bloomberg.com/news/articles/2019-05-23/most-grass-fed-beef-labeled-product-of-u-s-a-is-imported>
- Schmit, T. M., Severson, R. M., & Sawaura, E. (2019). Assessing the barriers to increasing customer participation and farm sales at farmers markets: implications for marketing strategy. *Cornell Extension Bulletin 2019-05*. <https://dyson.cornell.edu/wp-content/uploads/sites/5/2019/08/Cornell-Dyson-eb1905.pdf>
- Tschannen-Moran, M., & Hoy, W. (2000). A multidisciplinary analysis of the nature, meaning, and measurement of trust. *Review of Educational Research* 70(4). <http://doi.org/10.2307/1170781>
- Tonsor, G., & Schultz, L. (2020). COVID-19 impacts on the meat processing sector. *Economic Impacts of COVID-19 on Food and Agricultural Markets*, 15–16. <https://www.cast-science.org/wp-content/uploads/2020/06/QTA2020-3-COVID-Impacts.pdf>
- Uematsu, H. (2011). Use of direct marketing strategies by farmers and their impact on farm business income. *Agricultural and Resource Economics Review*, 40(1) 1-19. <http://doi:10.1017/S1068280500004482>
- U.S. Department of Agriculture (USDA). (2007). 2007 Census of Agriculture. National Agricultural Statistics Service. <http://www.agcensus.usda.gov>
- U.S. Department of Agriculture (USDA). (2012). 2012 Census of Agriculture. National Agricultural Statistics Service. <http://www.agcensus.usda.gov>
- U.S. Department of Agriculture, Economic Research Service (USDA ERS). 2020. Livestock & Meat Domestic Data. <https://www.ers.usda.gov/data-products/livestock-meat-domestic-data/livestock-meatdomestic-data/>
- U.S. Department of Agriculture National Agricultural Statistics Service (USDA NASS). (2016). Local Food Marketing Practices Survey. https://www.agcensus.usda.gov/Publications/Local_Food/

- U.S. Department of Agriculture National Agricultural Statistics Service (USDA NASS). (2022). Local Food Marketing Practices Survey. https://www.agcensus.usda.gov/Publications/Local_Food/
- U.S. Department of Agriculture National Agricultural Statistics Service (USDA NASS). (2021). Annual Cattle Review. https://www.nass.usda.gov/Statistics_by_State/Oklahoma/Publications/Recent_Reports/2021/ok-cattle-review-2021.pdf
- U.S. Department of Agriculture National Agricultural Statistics Service (USDA NASS). (2019). Annual Cattle Review. https://www.nass.usda.gov/Statistics_by_State/Oklahoma/Publications/Recent_Reports/2019/ok-cattle-review-2019.pdf
- U.S. Department of Agriculture, Agricultural Marketing Service (USDA-AMS), 2020. National weekly cattle and beef summary-USDA Livestock, Poultry & Grain Market News. <https://www.ams.usda.gov/mnreports/lswwcbs.pdf>
- Weersink, A., von Massow, M., Bannon, N., Ifft, J., Maples, J., McEwan, K., & Wood, K. (2021). COVID-19 and the agri-food system in the United States and Canada. *Agricultural Systems*, 188, 103039. <https://doi.org/10.1016/j.agsy.2020.103039>
- Whitacre, B. E., Gallardo, R., & Strover, S. (2014). Broadband's contribution to economic growth in rural areas. *Telecommunications Policy*, 38(11), 1011-1023. <https://doi.org/10.1016/j.telpol.2014.05.005>
- White, D., Meyers, C., Doerfert, D., & Irlbeck, E. (2014). Exploring agriculturists' use of social media for agricultural marketing. *Journal of Applied Communications*, 98(4), 72-85. <https://doi.org/10.4148/1051-0834.1094>