

Alabama & Georgia Media Sources and Their Claims About Alternative Food Networks

by

Amanda Leigh Stitt

A thesis submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Rural Sociology, Master of Science

Auburn, Alabama
December 14, 2019

Keywords: Alternative food networks, food safety, beef,
local food, media, tone

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Approved by

Michelle R. Worosz, Chair, Professor of Rural Sociology
Loka Ashwood, Assistant Professor of Rural Sociology
Christy Bratcher, Professor of Animal Science

ABSTRACT

The purpose of this paper is to explore the ways in which the media shapes information about Alternative Food Networks (AFN). This study is embedded in a larger project investigating local beef food safety in the Southeast U.S. and the media's presentation of local beef. Focusing on local and organic beef in Alabama and Georgia, data were gathered via Access World News using AFN keywords and included 201 newspaper articles published between 2007 and 2018. Data were coded for topic, tone, location, and publisher. Findings indicate that 82% of these articles were published in metro areas and only one was published in a noncore area. The lack of rural coverage may explain why rural grocery store consumers are less familiar with the term "local" (Telligman, Worosz, and Bratcher 2017) and why rural consumers claim that no one influences their local beef purchases (Richardson and Worosz 2017). Lack of news in noncore areas may be explained by consolidation of local newspapers.

TABLE OF CONTENTS

Abstract	ii
List of Tables	iv
List of Figures	v
List of Abbreviations.....	vi
INTRODUCTION	1
OBJECTIVE / RESEARCH QUESTION	5
LITERATURE REVIEW	5
Local Food	7
Organics	8
Alternative Food Networks and the Media	10
METHODS.....	12
Data Collection.....	13
Content Analysis	16
FINDINGS	17
Dataset	17
Location	21
Ownership	25
Content.....	27
Query Search	27
Topic & Tone.....	29
DISCUSSION	33
Topic and Tone.....	34
Source, Origin, & Location	36
Metro & Micro Areas of Alabama	37
Metro & Micro Areas of Georgia	38
Noncore (Rural) Area.....	41
CONCLUSION.....	42
Limitations	45
REFERENCES	47

LIST OF TABLES

Table 1. Keyword Lists.....	14
Table 2. Searches of Alabama and Georgia Alternative Food Network Data Published between 2007 and 2018.....	19
Table 3. Alternative Food Network Newspaper Articles Published in Alabama and Georgia (2007-2018).....	20
Table 4. Use of Alternative Food Network Keywords in Alabama and Georgia (2007-2018)..	28
Table 5. Newspaper Article Topic and Tone	32

LIST OF FIGURES

Figure 1. South Atlantic and East South Central Regions of the United States	18
Figure 2. Alternative Food Network Articles by County	22
Figure 3. Distribution of Alabama and Georgia Newspapers	24
Figure 4. Newspaper Ownership in Alabama and Georgia	26

LIST OF ABBREVIATIONS

AFN	Alternative Food Network
AWN	Access World News
USDA	United States Department of Agriculture
FDA	Food and Drug Administration
CSA	Community Supported Agriculture

INTRODUCTION

While cotton was once the “King” of the southeast, especially in Alabama and Georgia, today the leading agricultural industries include poultry, timber, and peanuts (Du Bois 1999; Wolf 2017). Beef production is also an important agricultural sector in the southeast, where approximately 44 percent of the beef cattle in the U.S. resides (Scaglia et al. 2017). For example, Georgia is home to roughly 1.3 million head of cattle which are valued at \$676 million, making cattle production the state’s sixth largest cash crop (Georgia Cattlemen’s Association 2019). According to the 2017 USDA Census of Agriculture, Alabama is home to roughly 20,000 beef cattle farms, which accumulated \$434 million in cattle sales (USDA 2017). However, Alabama in particular produces primarily raw materials that must then be shipped out of state. Cattle, for instance, is sent to western states to be processed and sold.

Despite the importance of agriculture, rural areas across the country, particularly in Alabama and Georgia, are struggling economically. These rural areas are also home to most U.S. farms. This economic struggle is especially true for the rural areas in the southeast region of the U.S. which have expansive areas with a history of persistent poverty (Ahearn and Stern 2013). This persistent poverty has had a negative impact on the economic structure of those areas (Ahearn and Stern 2013). For example, many rural communities rely heavily on one or two industries, which means their economies are specialized, reliant on one or a few employers, and can fluctuate dramatically (Hindman, Ernst, and Richardson 2009). Overall, rural regions often lack diversification and often underutilize regional assets that would otherwise help stabilize the economy (Zasada and Piorr 2015). Additionally, agricultural pursuits such as cattle production, can be expensive to produce and often farmers receive low prices. However, one option for

farmers to seek a price premium is by offering products with certain attributes such as using organic production practices, or selling locally. Selling locally in particular allows farmers to retain a greater portion of the food dollar because there are fewer chain actors.

Demand for local food is driven by consumer preferences (i.e., sustainable, locally grown, ethically grown), which, in turn, have an impact on the ways that farmers choose to manage their operations and market their products. It has been documented that local food consumers believe the produce purchased in farmers markets are fresher, have a higher quality, are healthier, and taste better (Abel and O'Neill 2010; Archer et al 2003; Ahearn and Stern 2013). In addition, these consumers care about the mix of products offered and are interested in supporting local producers (Abel and O'Neill 2010; Archer et al 2003; Ahearn and Stern 2013). In response, some farmers add value to their products by emphasizing attributes such as organic, that differentiate their products from standard commercially available foods. For example, one Georgia farmer has become widely recognized, some even call him legendary (White Oak Pastures 2019), for his pasture-raised meats and “radically traditional” (i.e., grass-fed, humanely raised, organic) production methods (White Oak Pastures 2019). While production and sales of local foods offers financial benefits to farmers, it can also provide economic development benefits to communities. This is because purchasing locally grown foods recirculates money within the community and supports local farmers whom consumers trust.

The media has served an important role in sharing food-related information since the 1970s and thus, may play a role in influencing consumer purchasing decisions. However, the media has changed significantly in the last 50 years in terms of corporatization, consolidation, and the introduction of digital technology (Robinson 2014). Nevertheless, newspapers have continued to play a role in transmitting information about food risks and benefits (Lozano and

Lores 2013). While the internet plays an increasingly important role, it is believed that U.S. consumers, to some extent, continue to use newspapers as one of their primary sources of food safety information. For instance, Fleming, Thorson, and Zhang (2006) found that exposure to local newspapers, and attention to local television, are significantly related to public concerns regarding food safety. This suggests that focusing on local media can provide insight into the types of information that may influence consumer purchasing decisions.

The media's role in informing consumers about food makes consumers' access to media important. However, structural changes in the media, due to consolidation (i.e., small newspapers being purchased by national companies) have impacted where media outlets are located, and ultimately, who has access to the news. For example, in the U.S. roughly 1,800 local newspapers have gone out of business since 2004 (University of North Carolina 2017). Perhaps most concerning is that over 500 (28%) of these local newspapers were located in rural communities (University of North Carolina 2017). Because rural residents still rely heavily on print newspapers as their source of information, often lack access to broadband internet, and have few alternative news sources, one could argue that media consolidation has the greatest impact on rural residents (Bauman 2018; Smith 2009; American Farm Bureau Federation 2019). Approximately 200 counties in the U.S. lack a local newspaper, 91 of those counties are located in the southern states, and 28 of those counties are in the state of Georgia specifically (University of North Carolina 2017). Both declining numbers and increasing consolidation can have detrimental impacts in rural areas.

Studying the media to gain insight and context into the ways different types of information is framed and shared is quite common in the social sciences, and especially in sociology; however, relatively little media research focuses on the agrifood system. The few

studies that have been conducted explore, for instance, the media's portrayal of oysters in Southern Louisiana (Ten Eyck and Deseran 2004); framing the debate on food allergen legislation (Hamshaw et al. 2017); the food safety risk perceptions and sense-making in food purchasing (Sarathchandra 2010); and the social construction of pesticide advertisements in farm magazines (Kroma and Flora 2003). This work provides a broad foundation to support the study of media surrounding local beef and how its portrayal may influence consumer purchasing decisions.

The media plays a role in informing consumers and shaping their perceptions of food and food production practices, therefore the media may also influence how farmers perceive local foods, manage their operations, and engage in direct markets. The media may also influence consumers in their purchases of local beef. A study conducted by Telligman, Worosz, and Bratcher (2016) found that many (61%) farmers market and grocery store consumers surveyed associate local beef with improved food safety. Richardson and Worosz (2017) attempted to decipher the influencers of these perceptions as determined by Alabama consumers. They found that some buyers, particularly those who shopped at farmers' markets, claim "friends," "family," and "local farmers" were primary influencers in their local beef purchasing decisions, while other consumers stated that they were influenced by no one. These findings beg the question "what and whom might also influence consumers' beef purchases?" Therefore, this study focuses on alternative food networks (AFN), which can be defined as "alternatives to the more standardized industrial modes of food supply", and how they relate to rural communities and rural economic development.

OBJECTIVE / RESEARCH QUESTION

The goal of this study is to determine which media publishes and/or transmits information about “local beef;” where these media outlets are located, and to identify the content and tone of the information that is shared (Renting, Marsden, and Banks 2003). This study asks: *What type of information about local and organic beef has been published in the mass media; what is the content and tone of this coverage; what is the source, origin, and location of this information; and what is the potential role of local and organic food in rural areas and rural economic development?*

LITERATURE REVIEW

Local foods and organics, which are a focus of this project, are two types of alternative food networks (AFN). Drawing on the AFN literature, this section begins with a discussion of varying definitions and reasons for recent growth. It ends with the role of trust and the media in consumer decision-making.

Discussion of alternative foods quickly becomes confusing because alternative food networks encompass several different approaches. For example, AFN activities include, but are not limited to, direct sales, low input and values-based production practices, and purchasing from regional and local sources (Maye and Kirwan 2010). There have been several attempts to define AFNs (Thorsoe and Kjeldsen 2016); broadly, AFNs can be defined as “alternatives to the more standardized industrial modes of food supply” (Renting et al. 2003). Some scholars articulate certain features of alternative food such as the shortened food chains that intend to bring consumers closer to the origins of their food (i.e., buying from local producers at farmers markets or farm stands) or the direct interaction between producers and consumers (Eden, Bear,

and Walker 2008; Hinrichs 2000; Jarosz 2008; Renting, Marsden, and Banks 2003; Seyfang 2006). For purposes of my study, Jarosz's (2008) broad definition is used. It suggests that AFNs can be characterized as: (1) shorter distance between producers and consumers; (2) small farm size and scale of production; (3) low input production practices such as organic or holistic farming methods; (4) food purchasing venues such as food co-operatives, farmers markets, and consumer supported agriculture (CSAs); and (5) commitment to social, economic, and environmental dimensions of sustainable food production, distribution, and consumption.

While initially spurred by the “back to the Earth” reaction to books such as Rachel Carson’s *Silent Spring* (1962), the alternative food movement has grown in popularity in recent years (Ikerd 2011). Recent growth occurred in response to the increasingly industrialized, standardized, and globalized food system (Gaytan 2004; Feenstra 1997; Goodman, DuPuis, and Goodman 2012; Hendrickson and Hefferman 2002; Papendizck 1987) and subsequent reaction to uncertainties stemming from agro-industrialization (Feagan 2007). Additionally, the U.S. agrifood system is under unprecedented corporate control (Guptill and Wilkins 2002). These changes in the structure of the agrifood system have led some consumers to shy away from foods produced in ways typical of industrialized agriculture and to look toward foods produced in alternative ways. AFNs can provide, what is perceived to be more transparency in production practices and more trust due to direct relationships with farmers. As a result, consumers’ concerns about conventional production practices have led to the growth of farmers markets, farm-to-table restaurants, and farm-to-school projects, as well as the emergence of the U.S. Department of Agriculture’s (USDA) “Know Your Farmer, Know Your Food” initiative (Fitch and Santo 2016). For example, over 8,700 farmers markets have been established in the U.S. since 1994 (USDA 2018). However, this growth in farmers markets has not occurred evenly

across the country. People living the southeastern states, in particular, remain relatively underserved by farmers markets (Schupp 2017; Ahearn and Stern 2013). For example, as of 2017 roughly 1,800 Alabama farms marketed their products directly to consumers (USDA 2017). This lack of farmers markets suggests that there is a missed marketing opportunity for local and organic producers in the southeastern U.S.

Local Food

“Local food” encompasses several social goals of AFNs including shortened food chains; food security; and relocalization, which encompasses local production and consumption in order to increase the economic or social viability of a region (i.e., economic development) (Feagan 2007). This concept of local food is particularly complex in that it is a broadly used phrase, yet the AFN literature suggests that there is no consensus regarding its definition (Feagan 2007; Hinrichs 2003; Pearson et al. 2011; Ostrom 2006). Regardless, four main themes have emerged as core areas that address AFNs in terms of local foods: it is rooted in a particular place, it is ecologically and environmentally healthy, it enhances social justice and democracy, and it is economically viable for all parties involved (i.e., producer and consumer) (Feenstra 1997; Feagan, Morris, and Krug 2004). In theory, consuming local foods can be very beneficial because it not only reduces the distance food is transported, but also facilitates greater trust when food comes from a known source and supports the community economically, by keeping local farms viable (Feagan, Morris, and Krug 2004; Thorsoe and Kjeldsen 2016).

Utilizing regional agricultural assets via “relocalization” may offer a plan of economic development for rural communities. Relocalization is an umbrella term that is often used to describe the shortening of food miles and a growth of market share in local food, and is often accomplished via the development of direct sales via community gardens, farmers markets, and

community supported agriculture (CSA) (Glaros 2018). Prior studies suggest that the “relocalization” of food can provide economic benefits for communities, especially rural communities, and the development of a local food economy can play a large role in socially empowering a community (Feenstra 1997; Wittman 2009; Rosset & Altieri 2017). For example, localized food networks can reinforce social identity, encourage community cohesion, prioritize the community over corporate profit making, and can have an overarching positive impact on the economic and social viability of communities (Feagan, 2007; Anderson and Cook 2000; Renting et al. 2003). Additionally, localized food networks have the potential to increase the economic viability of AFN farms. For instance, nationwide it has been estimated that farmers markets and other direct to consumer marketing opportunities contribute roughly \$9 billion to the U.S. economy each year (USDA 2018). The results of these studies, combined with results of studies of the increased interest in the local food movement and food production practices, may provide an opportunity for economic development for some rural communities (Ikard 2011; Galt 2011).

Organics

Organic production, another AFN, which has grown steadily since 1999, has transformed into a development market which can offer farmers and communities economic development opportunities (Reganold and Watcher 2016; Oroian et al. 2017). The organic market has been continuously growing, for example organic product sales doubled between 2012 and 2017, however supply is still too low to meet consumer demand (USDA 2017; Sahota 2017; Willer and Lernoud 2017). This is especially the case in Alabama and Georgia where there are only 18 and 83 certified organic farms respectively (USDA 2017). This lack of supply to meet consumers’ growing demand for organic products provides farmers with an opportunity to market their goods at a higher price point. Although many farmers produce food organically but are not

certified, producers are increasingly certifying their operations in order to provide consumers with verification of their production methods (Reganold and Watcher 2016). Organic production can offer farmers the ability to capture higher prices for their products and can reduce external input costs (Reganold and Watcher 2016; Oroian et al. 2017; Jouzi et al. 2017). Therefore, a combination of growing demand, low supply, and the potential of a higher price provides a financial incentive for farmers to produce organically.

As organic production increases to match the growing demand for organic feed, there is also a greater need for labor. For this reason, combined with the fact that organic production is generally more labor intensive, organic production is thought to be a “job-creator”, which could contribute to economic reinvigoration in areas of high unemployment and poverty, specifically rural areas of the Southeastern U.S. (Ahearn and Stern 2013; Bama 2011, Glynn 2011). In addition to creating jobs, increased demand of organic food and subsequent sales in rural areas in particular can provide people with local access to fresh and healthy food (Jouzi et al. 2017).

Overall, demand for AFNs is continuously growing, and Ikerd (2011) argues that one reason for an increase in alternative purchasing trends is a response to consumer concerns about government regulation of food and distrust of the USDA and Food and Drug Administration (FDA). Yet, paradoxically, recent studies show that consumers are willing to pay more for food that has a USDA organic label (McFadden and Wallace 2017). In other words, research shows a contradiction in that some consumers may purchase organic products due to concerns about government oversight, yet rely on a USDA organic label to ensure food safety. Other research suggests that consumers purchase alternatively produced food for reasons other than regulatory and food safety concerns. As Frazier’s (2007) work indicates, many consumers choose to purchase local foods in an attempt to support local businesses and their local economy.

Alternative Food Networks and the Media

The local movement is not unified and there are no direct boycotts, protests, or petitions (Frazier 2007), making it difficult to identify where consumers obtain the information that influences their purchasing decisions. However, one place that consumers have access to this information is via the media. For example, findings from prior studies suggest that the positive reporting of organics may have influenced consumer purchases (Cahill, Morley, and Powell 2010). In a study of the coverage of organic agriculture in North American newspapers, Cahill, Morley, and Powell (2010) found that more than one third of the stories analyzed shared a positive view of organic and that the second highest number of stories focused on the organic “culture” (i.e., new organic grocery stores, products). In other words, consumers are often reading positive articles about organics and other AFNs, which may, at least as some studies have found, result in a greater consumer demand for AFNs (i.e., organic products, local products, farmers markets, CSAs).

However, relying on the mass media to share food information often contributes to disparities in the messages among scientists and journalists (Lozano and Lores 2013). Public health communicators attempt to utilize the media for positive coverage, but the media tends to focus on “hard news” that will sell, which often results in the coverage of food scandals (Lozano and Lores 2013). Perhaps this is because, as Hannigan (2014) highlights, the media often frames rhetorical arguments to fit a particular narrative. As a result, the media’s portrayal of food issues can mislead the public and create false hopes and unnecessary fears (Hampl 2004). Regardless, consumers rely on the media, therefore it plays a critical role in informing the public about food-related topics, and has considerable power to name and frame food crises, raising questions regarding the ways in which media outlets share food related information.

Interestingly, while some consumers yearn for a personal connection to farmers, and the trust that comes with that relationship, it is also trust that plays a role in the gathering of information related to food. There are many forms of social interactions (i.e., face-to-face, as citizens, as friends) that play a role in consumers developing trust in AFNs and interaction with media plays a central role (Thorsoe and Kjeldsen 2016). In particular, information provided by the mass media impacts consumer purchasing decisions (Just 2001), and the media shares information regarding food risks and hazards (Yadavalli and Jones 2014). The media plays a critical role in informing the public about food-related topics, and it has considerable power in naming food crises (Lozano and Lores 2013), which raises questions regarding the ways in which media outlets share food related information. For instance, prior work on media communications and food crisis found that risk perceptions can be influenced by the way that the media constructs a food crisis story (Mitchell et al. 2015). However, negative news messages about a product do not necessarily prevent consumers from purchasing items within the product category (i.e., meat) if it is perceived to be associated with the risk presented in the article. Instead, they simply purchase another product from the same category (i.e., choose pork instead of beef) (Mitchell et al. 2015).

Other studies of the media's portrayal of agrifood topics also provide insight about the types of information shared. For example, results of a study of the ways in which the media shares information about oyster harvesting in Southern Louisiana indicated that in many cases both positive and negative information was shared in the same issue, which researchers referred to as "chiastic" media presentations (Ten Eyck and Deseran 2004). A study of the food allergen legislation debate on social media found that users described the topic using numerous frames including the risks associated with food allergies, medical concerns, responsibility, fairness, and

the financial implications of the legislation (Hamshaw et al. 2017). An analysis of the social construction of pesticide advertisements in farm magazines identified “eras” of publications where the focus of the advertisements was on science, then control, and finally environment; ultimately preparing for the presentation of genetically engineered seeds (Kroma and Flora 2003). Using content analysis to examine the ways in which newspapers portray food scares in the U.S., Sarathchandra (2010) found that food scares are newsworthy for journalists. Additionally, Sarathchandra (2010), found that the articles were often found in the business section of the newspapers; typically quoted one source (often a government official); were primarily short; and often framed similarly (i.e., public accountability frame, ethical/religious frame, economic fame, medical/scientific frame). Therefore, studying the ways that the media shares food-related information may provide insight into the media’s influence of consumer’s AFN purchases.

METHODS

This work is part of a long-term project investigating local beef food safety in the Southeast U.S. with emphasis on Alabama and Georgia. The purpose of the larger project is two-fold: to examine the types of local beef information that the media disseminates and to examine how the media may alter their messaging during high profile food safety scandals and scares. Within this context, I am examining how the media defines and shapes the meaning of “local” and organic and how it might influence consumer response to food safety and animal handling concerns, as well as their local and organic beef purchase decisions.

To evaluate the media’s portrayal and tone of local and organic beef, I conducted a content analysis of newspaper articles published in the states of Alabama and Georgia. Analyzing the

tone of the information provides a foundation for understanding whether or not the information is positive and supportive (for more information on tone, see “Content Analysis” section below).

Prior studies have used content analysis to analyze, for instance the role of the media in flows of knowledge (Bocking 2010), to study the impact of the media on attitudes towards genetically modified foods (Vilella-Vila and Costa-Font 2008), and to examine the media coverage of scientific evidence linking meat production and climate change (Lee et al. 2014). Drawing on this work, I examine how media sources use topic and tone in relation to AFNs, particularly local and organic beef.

Data Collection

Data were collected from Access World News (AWN), which was selected as the primary data source because it focuses on local news and contains several media source types including newspapers, blogs, magazines, newswires, newsletters, TV and audio transcripts, and web only materials. Importantly, the database contains over thirty news outlets in both the states of Alabama and Georgia. In addition, the database provides numerous organizational tools that make it effective in searching and organizing data by source type, date, and location. For instance, organizing the data by date made it possible to align the number of articles published on certain dates with the dates of significant food safety events.

Five steps were used to create a comprehensive dataset. In the first step, an initial keyword search, based on an AFN literature review (Table: List 1), was conducted and tested in AWN. The results were assessed, discussed among a three-person research team,¹ and a second keyword list was established. The list included beef, red meat, meat, local, food, organic, natural,

¹ The research team included my major advisor and my research partner who is working on local beef food safety (see Shelley 2019).

grass-fed, pasture-raised, humane handling, USDA, food safety, farm market, farmers market, and local food (Table 1: List 2).

Next, the final list of keywords (Table 1: List 2) was used to search AWN to identify the number and types of sources. These results were assessed, again, by the research team to identify keywords associated with extraneous material. For example, searches using the word “beef” often yielded irrelevant articles such as a company’s plans to “beef up security.” To exclude irrelevant articles, the results were filtered using a series of Boolean searches with the “NOT” function (Table: List 3). The terms excluded from the results were commodities, calendar, NAFTA, menu, recipe, diet, Trump, event, cooking, and SNAP (Table 1: List 3).

Table 1. Keyword Lists.

Name	Keywords
List 1: Initial Keywords	Beef Packers Incorporated (BPI), pink slime, ABC, FDA, USDA, school lunch, McDonald’s, Taco Bell, <i>E. coli</i> , salmonella, Diane Sawyer, meat glue, meat, beef, Jamie Oliver, Food Revolution, carbon monoxide, community garden, locavore, Frankensteak, Michelle Obama, chipotle, Food Inc., <i>Consumer Reports</i> “How Safe is Your Beef,” NAMI (North American Meat Institute), regulation, and rules.
List 2: Final Keywords	Beef, red meat, meat, local, food, organic, natural, grass-fed, pasture-raised, humane handling, USDA, food safety, farm market, farmers market, and local food.
List 3: Boolean “NOTs”	Commodities, calendar, NAFTA, SNAP, recipe, menu, diet, Trump, event, and cooking.
List 4: Query Search Terms	Animal welfare, FDA, grass-fed, humane handling, label, local, local beef, natural, organic, pasture raised, sustainable, and USDA.

All remaining transcripts between 2007 and 2018 were collected and saved in a combined text file. This time period was selected for data collection because it includes the year prior to the Westland/Hallmark incident, which is the largest meat recall in U.S. history² and AFNs often emerge following a food safety incident (Martin 2008; Seltzer, Rush, and Kinsey 2010; Gabel 2008; Thorsoe and Kjeldsen 2016). These files were divided by year and source type, then split between two team members to assess for relevance. The results were discussed by the research team, and then reassessed and recoded as relevant or not relevant by my research partner (i.e., the datasets were switched to assess consistency).

After the relevant articles were identified, the data were loaded into NVivo (n=7,656) and reviewed to identify and eliminate duplicate articles. Several newspapers published in Alabama and Georgia are owned the same holding companies (e.g., Community Newspaper Holdings), meaning that some of the same articles were published in several different news outlets. These duplicate articles were kept in the dataset because they might reach different readers. However, they were coded to denote the duplication. Because newspapers were found to constitute over 94 percent of the results, the remaining 6 percent, made up of newswires and web-only sources, were removed from the data. Thus, the final dataset was comprised wholly of newspaper articles.

Finally, a content analysis was conducted in three steps. First (step 5.1), an Nvivo query was run to identify the number of times each keyword was mentioned and the number of articles that used the keyword. Next (step 5.2), “attributes” were used to identify characteristics of the articles and the newspapers in which they were published (e.g., location, author, publisher, section). Each source (i.e., newspaper) was assessed and its geographic region and owner were recorded. For

² This work is part of a long-term project about local beef food safety (see Shelley 2019).

example, *The Huntsville Times* is published in Huntsville, Alabama, which is a metro region, and it is owned by Advance Publications. In the last step (5.3), the content of the articles was analyzed for topic and tone using an inductive approach (i.e., instead of having a preset list of themes) (Cahill et al. 2010). During this process, themes emerged from the articles upon review.

Content Analysis

Content analysis is often used in media studies. For example, tone has been analyzed to better understand the media's coverage of the Deepwater Horizon oil spill of 2011 (Turcotte et al. 2017), to understand how the media's portrayal of the nursing homes sector might influence Americans' opinion of the care in nursing homes (Miller, Livingstone, and Ronneberg 2017), and to determine whether the news coverage of media violence reflects scientific knowledge about exposure to media violence (Martins et al. 2013). Examining topic and tone will help to identify what information about AFNs was shared and how the information was framed. Using Cahill, Morley, and Powell's (2010) technique, the articles were analyzed according to topic (i.e., organic, local) and tone (i.e., positive, neutral, negative) to identify how the media might influence consumer purchasing decisions. Drawing on Jarosz's (2008) definition of AFNs, articles were coded for distance (i.e., local), farm scale (i.e., small), farming methods (i.e., organic, sustainable, humane handling), food venues (i.e., CSAs, farmers markets, co-operatives), and dimensions of sustainability (i.e., economic, social, environmental). Next, the tone (i.e., positive, neutral, negative, mixed) was identified. For example, an article may discuss a small-scale organic farm. After identifying the topics, it was determined whether the author framed the topic in a positive or negative manner such as the benefits to the local community. After coding for topic and tone was completed, coding decisions were cross-referenced between team members to ensure accuracy and to eliminate any remaining unrelated articles.

FINDINGS

The process of data collection and analysis was iterative; thus, the findings are organized in four sections. In the first section (Dataset), the findings from the creation of the database are discussed. This section walks through the process of elimination that was used to establish the final set of newspaper articles (n=201). The second section (Location) identifies where (i.e., city, state, statistical area) the newspaper articles were published. The third section (Ownership) identifies the companies that own the newspapers in this dataset. The fourth and final section, (Content) discusses the results from the query search, topics that emerged from the data as well as the tone of the articles. The discussion section will further elaborate these findings within the context of rural Alabama and Georgia.

Dataset

An initial search of the keywords from all years yielded approximately 22 million potential articles related to alternative food networks with roughly 3.8 million in the East South-Central region—Alabama, Tennessee, Mississippi, and Kentucky—and 18.2 million in the South Atlantic region—Georgia, Florida, South Carolina, North Carolina, West Virginia, Virginia, Maryland, Washington D.C., and Delaware (Figure 1). Nearly 1.3 million potential AFN articles were published in Alabama or from an Alabama source with the earliest mention in 1987 (Figure 1). In contrast, there were more than 2 million articles published in Georgia, with the earliest mention in 1985. The earliest articles documented company mergers, bargain beef prices, cattle sales, and dairy production. During the 1990s, these articles tended to focus on topics such as the inspection of meat processing facilities; irradiated meat; organic foods and the USDA organic label; salmonella; and the U.S. food inspection system, broadly.

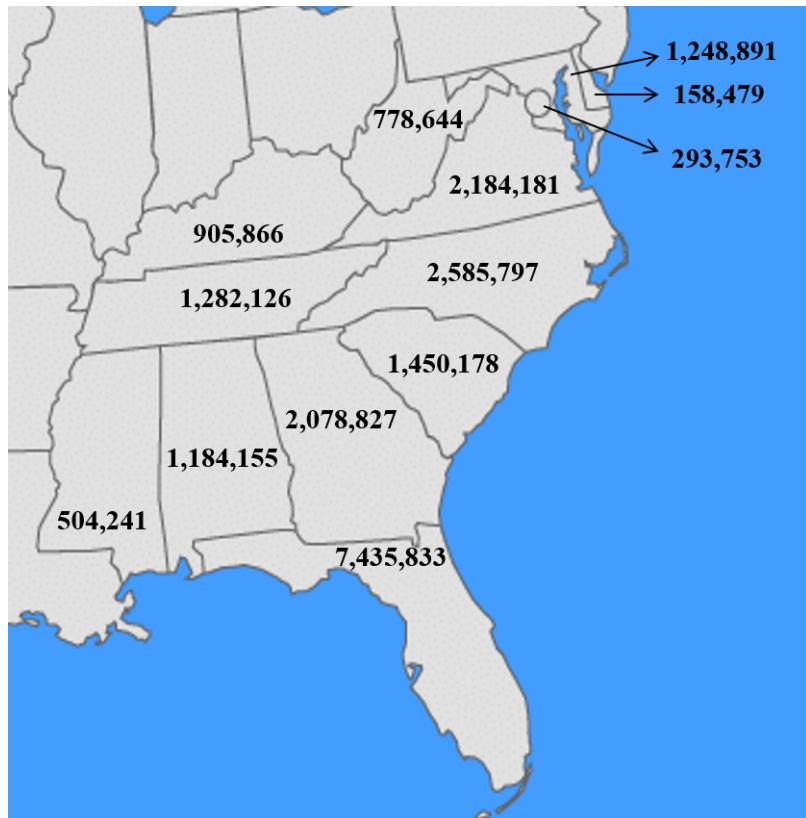


Figure 1. South Atlantic and East South Central regions of the United States (n=20,736,917). The regions included Mississippi, Alabama, Georgia, Florida, South Carolina, North Carolina, Tennessee, Kentucky, West Virginia, Virginia, Maryland, Washington DC, and Delaware.

Of the initial group of results, (see Methods step 2), 7,656 articles were found to fit the definition of AFNs and were published in Alabama and Georgia between 2007 and 2018 (Table 2). Most (94%) AFN articles came from newspapers. Only 6 percent of these articles came from other sources, which were exclusive to newswires, TV transcripts, blogs and web-only materials. Newswires, which constituted 0.94 percent (n=72) of the initial group of results, tend to be written by independent companies (i.e., Associated Press, Gannett News Service) and the articles often sold to newspapers to be published. Television transcripts (n=4) constituted only 0.05 percent of the initial group of articles. Blogs (n=23) and web-only materials (n=381), which are

available only to people who have internet access, made up 5.28 percent of the initial group of articles.

Table 2. Searches of Alabama and Georgia Alternative Food Network Data Published between 2007 and 2018.

Year	All KWs ^Δ	Newspaper Sources (KW + NOTs) [*]	Other Sources [‡] (KW + NOTs)	All Sources (Total)
2007	4,322	765	6	771
2008	5,065	1,001	5	1,006
2009	3,805	707	64	771
2010	4,206	678	92	770
2011	4,232	668	115	783
2012	4,200	613	78	691
2013	3,436	487	56	543
2014	3,282	496	26	522
2015	2,937	479	17	496
2016	4,405	537	12	549
2017	3,090	602	5	607
2018 [†]	835	143	4	147
Total	43,815	7,176	480	7,656

^Δ This search included the modified keywords (Table 1: List 2).

^{*} This search included the modified keywords and the keywords used in the Boolean searches with the “NOT” function (Table 1: List 2 and 3).

[†] 2018 data were collected between January and March.

[‡] Other sources include newswires, blogs, transcripts, and web-only sources.

After eliminating “other source” types (i.e., newswires, blogs, transcripts, and web-only; see Methods step 4), the remaining articles³ (n=7,176) were coded according to their topic, and irrelevant articles were removed from the dataset (see Methods step 5). A total of 201 relevant newspaper articles remained (Table 3).

Table 3. Alternative Food Network (AFN) Newspaper Articles Published in Alabama & Georgia (2007-2018).

Year	AL (%)	GA (%)	Year Total (%)
2007	5 (2.48)	8 (3.98)	13 (6.47)
2008	31 (14.42)	12 (5.97)	43 (21.39)
2009	7 (3.48)	7 (3.48)	14 (6.97)
2010	10 (4.98)	9 (4.48)	19 (9.45)
2011	6 (2.99)	13 (6.47)	19 (9.45)
2012	5 (2.48)	15 (7.46)	20 (9.95)
2013	7 (3.48)	10 (4.98)	17 (8.46)
2014	4 (1.99)	9 (4.48)	13 (6.47)
2015	2 (0.99)	2 (0.99)	4 (1.99)

³ “Articles” from this point forward refer to newspaper articles, only, as all other source types were eliminated.

Year	AL (%)	GA (%)	Year Total (%)
2016	8 (3.98)	8 (3.98)	16 (7.96)
2017	11 (5.47)	3 (1.49)	14 (6.97)
2018	5 (2.48)	4 (1.99)	9 (4.48)
Total	101	100	201

Location

The articles, and the newspapers from which they came, were predominately published in metropolitan areas. The Alabama articles were published primarily in Mobile (17%), Birmingham (13%), and Huntsville (16%); and secondarily in Dothan (5%) and Decatur (7%). Very few were published by sources located in the capital city, Montgomery (0.2%), or across the 17 traditional Black Belt counties (0.6%) (Figure 2). These Black Belt counties, named for their dark, fertile soil and high percentage of black population, tend to be rural and are associated with issues of persistent poverty: few employment opportunities, limited access to healthcare services, poorly performing schools, and limited social services (Du Bois 1999, Winemiller 2009). Although Alabama is most often associated with the Black Belt, the Black Belt region encompasses counties stretching from the Chesapeake Bay to the Mississippi-Yazoo Delta (Gibbs 2003). While Georgia's traditional Black Belt region is not as widely recognized as Alabama, it does share some of the same soils, areas of persistent poverty, poor education, and a higher percentage of black population (Du Bois 1999; Asare-Baah, Zabawa, and Findlay 2018). The Georgia articles were published primarily in Atlanta (18%), Milledgeville (11%), Athens (10%), and Savannah (10%) (Figure 2). The articles were published in only two (5%) of the

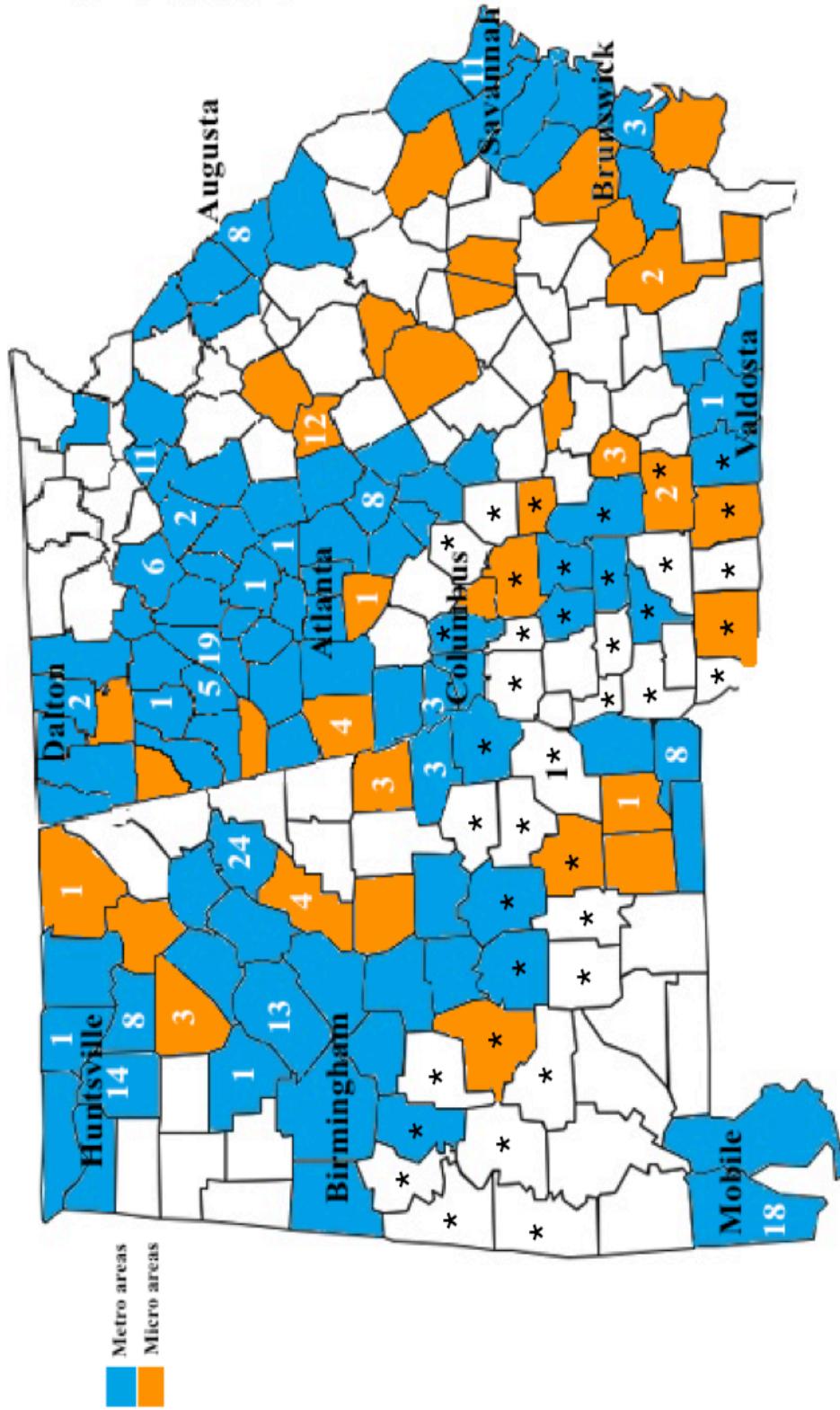


Figure 2. Alternative Food Network Articles by County. Across Alabama and Georgia, 103 counties (shaded blue) are metropolitan, 39 counties (shaded orange) are micropolitan, and 84 (unshaded counties) are considered noncore or rural areas. Black Belt counties (*) have been identified.

traditional black belt counties.

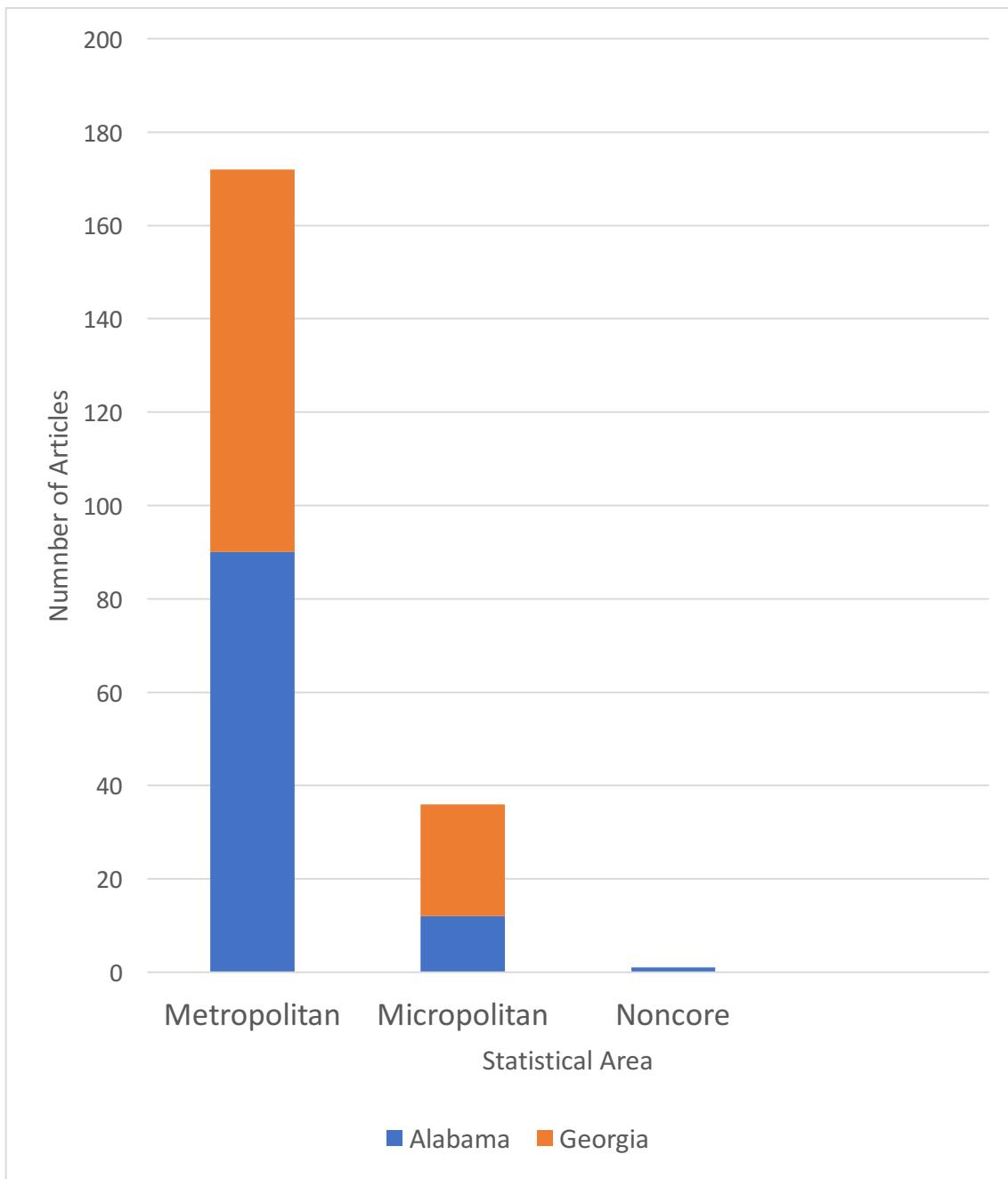
In Georgia and Alabama, a majority of the articles were published in metropolitan⁴ statistical areas of the state (n=172, 82.29%) and few were published in micropolitans⁵ (n=36, 17.22%). Only one article was published in a noncore⁶ statistical area in Alabama, and there were no articles published in the noncore areas of Georgia (Figure 2 and 3).

⁴ Metropolitan areas must have at least one urbanized area of 50,000 or more inhabitants (U.S. Census Bureau 2019).

⁵ Micropolitan areas must have at least one urban cluster of at least 10,000 but less than 50,000 inhabitants (U.S. Census Bureau 2019).

⁶ Noncore areas are not part of “core-based” metro or micro areas (Economic Research Service 2019).

Figure 3. Distribution of Alabama and Georgia Alternative Food Network Newspaper Articles (n=201).



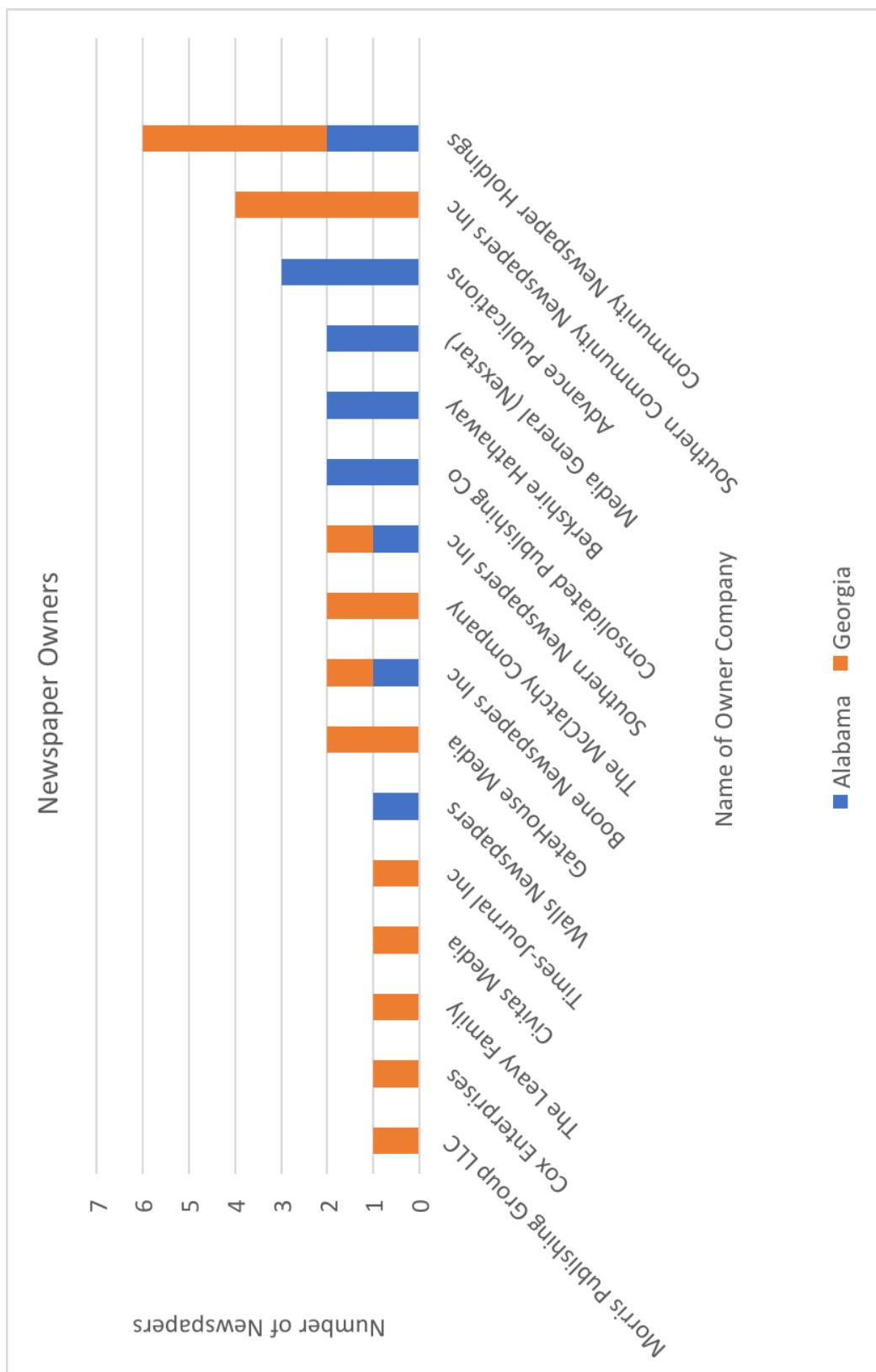
Of the 28 Alabama newspapers catalogued in AWN, four are located in the noncore areas of the state and six are located in micro areas of the state. In contrast, none of the 29 Georgia

newspapers cataloged in AWN are from the state's noncore areas and nine are located in micro areas of the state.

Ownership

The 201 articles were published in 33 newspapers across Georgia and Alabama between 2007-2018. Following national trends of consolidation (Saving Community Journalism 2019) these newspapers are owned by only 16 companies. Some companies own one newspaper (n=6), some own two newspapers (n=7), one owns three newspapers, one owns four newspapers, and one owns 6 newspapers (Figure 4). Of these holding companies, three own newspapers in both Alabama and Georgia. Several of these (i.e., Advance Publications, Berkshire Hathaway, Gatehouse) are large scale, nationally owned companies (Saving Community Journalism 2019).

Figure 4. Newspaper Ownership in Alabama and Georgia.



No trends in authorship were found. Additionally, the original publisher and the section in which the article was published were noted, but the results did not indicate any notable trends.

Thirteen individual articles (6.22%) were published multiple times for a total of 32. Of these duplicates, a majority were published in Alabama (n=28). Of these duplicates, 50% (n=16) articles were published by Advance Publications, 25% (n=8) were published by Consolidated Publishing Co., and 6.25% (n=2) by Community Newspaper Holdings Inc. Both Advance Publications and Consolidated Publishing Co. own newspapers in Alabama. Community Newspaper Holdings Inc. own two newspapers in Alabama and four newspapers in Georgia. Duplicated articles were written about topics such as local food, food production legislation, local beef organic, and grass-fed beef.

Content

Query Search

A refined query search of the data (i.e., Methods step 5.1) using the keywords related to AFNs (Table 1: List 4) identified the number of times each keyword was mentioned and the number of articles that used the keyword. Within the 201 articles, the AFN terms were mentioned 1,398 times (see Table 4). While “local” was commonly found across the states (n=123, 61.19%), “local beef” was used least frequently (n=3). Of the very few articles in which “local beef” was used, two were published in Alabama, one in a metro area and one in a micro area, and one was published in a Georgia metro area. The two published in Alabama (2017) were duplicates (i.e., the same article was published in The Daily Home and The Anniston Star) and described a new grass-fed beef company in South Dakota using a crowd-funding approach (i.e., consumers purchase “shares” of a steer). The article published in Georgia (2009) was about White Oak pastures, which sells beef that holds humane certifications (i.e., Humane Farm

Animal Care, Animal Welfare Association) and a certification from Whole Foods allowing him to sell Harris Family Heritage Beef at niche supermarkets. On the other hand, other “local” articles discussed topics such as cooperatives that sell locally produced eggs and cheese and other locally grown foods and stores selling locally sourced foods.

“Grass-fed,” a common practice in local beef production, arose in 35 percent (n=76) of total articles, yet was repeated only two times per article on average. Of these grass-fed articles, 30 (39%) occurred in Alabama newspapers and 46 (61%) occurred in Georgia newspapers. These articles discussed topics such as the health benefits of eating grass-fed beef and stories about grass-fed beef producers. One highlighted a gym offering “cow-pooling,” where gym members collectively purchase grass-fed beef. “Organic” was used more commonly (n=94, 46.77%), and it had the highest usage per article occurring almost five times (see Table 4). Of the articles in which “organic” was used, 43 (45%) were published in an Alabama newspaper and 51 (54%) were published in a Georgia newspaper. These articles discussed topics such as new organic restaurants, the differences between organic and inorganic gardening, and organic grocery stores. Of these articles, 16 mentioned organic beef specifically. Humane handling (n=0) did not occur at all.

Table 4. Use of Alternative Food Network Keywords in Alabama and Georgia (2007-2018).¹

Search Term	Articles ² (n)	Keyword Usage ³ (%) ⁴
Animal Welfare	7	16 (2.29)
FDA	9	27 (3.00)
Grass-fed	76	171 (2.25)

Search Term	Articles² (n)	Keyword Usage³ (%)⁴
Humane Handling	0	0 (0.00)
Label	24	84 (3.50)
Local	123	379 (3.08)
Local beef	3	5 (1.67)
Natural	68	146 (2.15)
Organic	94	433 (4.60)
Pasture raised	11	14 (1.27)
Sustainable	30	68 (2.27)
USDA	21	55 (2.62)
Total	466	1,398

¹ Data collected January to March 2018.

² Number of unique articles in which the search term was found.

³ Number of times the search term was used within the identified articles.

⁴ Average usage of the search term per article

Topic & Tone

Fourteen sub-topics emerged from the content analysis (i.e., Methods step 5.3); and most data, 75.62% (n=152), had a positive tone about AFNs, whereas 12.93% (n=26) had a negative tone. Only a small portion, 11.44% (n=23), had a neutral tone about local foods (Table 5). As

elaborated, below, the only topics with a negative tone were those about grass-fed beef, organic, legislation, and animal welfare. However, these same topics also had neutral and positive toned articles. Despite some articles having a negative tone, there were still more positive than negative organic and grass-fed beef articles. On the other hand, animal welfare and legislation articles had more articles with a negative tone than a positive tone (see below for examples of topic and tone).

“Farmers market” articles (n=40, 19.90%) occurred most commonly and were mostly positive (n=33, 182.50%) with the remainder (n=7, 17.50%) being neutral. Neutral farmers market articles primarily focused on times of operation. Positive farmers market articles shared how farmers markets are growing and provide farmers with opportunities to sell their goods and consumers with opportunities to buy fresh foods (Table 5). Similarly, local food articles (n=25, 12.44%) were primarily positive (n=24, 96.00%) (Table 5). Only one (4.00%) article was neutral (Table 5). For example, positive local food articles discussed the benefits of promoting state grown products, identified outlets where consumers could purchase local foods, and highlighted a local school system that was awarded for serving locally-grown foods. The neutral local food article discussed an upcoming local food event. The only “local beef” article (0.49%) was positive and highlighted a South Carolina farmer who sells his beef locally (Table 5). Alternative food networks were the topic of 16 articles (7.96%) all of which were positive. These articles were primarily about AFNs such as CSAs, food cooperatives, and community gardens. Similarly, agri-tourism (n=7, 3.48%), all natural (n=2, 0.99%), and home-grown food (n=4, 1.99%) also had a positive tone. These articles covered stories about new farm stands, farm tours, all natural meat, and the great taste of home grown food.

Grass-fed beef articles were overwhelmingly positive (n=35, 94.59%) with only one being neutral (2.70%) and only one being negative (2.70%). The latter, for instance, claimed that grass-fed beef does not taste as good as grain-fed beef (Table 5). The positive grass-fed beef articles (n=35, 17.41%) focused on helping people find grass-fed beef, the health benefits of grass-fed beef, and the higher levels of care used in grass-fed beef production (Table 5). Like grass-fed beef, organic articles (n=30, 14.93%) were widely positive (n=24, 80.00%), three were neutral (10.00%) and three (10.00%) were negative (Table 5). For example, one negative organic article outlines the need for increased production of protein to meet a growing demand (Brown 2017). This same article claims that “outliers” who are distrustful of industrialized agriculture are uninformed about the agriculture industry (Brown 2017), whereas the positive organic articles focused on the benefits of organic certification and the health benefits of eating organic foods.

Legislation articles (n=26, 12.94%) typically focused on food or food production (Table 5). Articles coded as positive (n=2, 7.69%), for example, shared support for legislation requiring labels to ensure consumers cook beef all the way through. On the other hand, articles coded as negative (n=17, 65.38%) expressed concerns regarding the piece of legislation in question (Table 5). One such example is *A tax on passing gas? –No bull: Some fear Clean Air Act will impose fees or fines on livestock flatulence* (2008), which discussed concerns about the economic implications of the proposed legislation.

Animal welfare was the topic of 10 (4.98%) articles (Table 5). The only positive animal welfare article (n=1, 10.00%) commends industry improvements citing a trend in increased body condition scores of cattle entering processing facilities (Table 5). Neutral animal welfare articles (n=4, 40.00%) present the information in a factual way without sharing the incident in question as being positive or negative (Table 5). Negative animal welfare articles (n=5, 50.00%) tended to

call for action to improve practices or discuss companies that treat animals poorly (Table 5). For example, one of these articles expresses concerns about conditions in poultry houses where they claimed that the birds didn't have enough room to move.

“Grass-fed beef alternatives,” “sustainable agriculture,” and “sustainable beef” were the least commonly occurring topics (n=3, 1.49%) and were all positive (Table 5). Articles with these topics were focused on young farmers promoting sustainable agriculture; livestock health and sustainable meat; and grass-fed production of goat and lamb.

Table 5. Newspaper Article Topic & Tone (n=201).

Topic	Positive (%)	Neutral (%)	Negative (%)	Total (%)
Agritourism	7 (100.00)	0 (0.00)	0 (0.00)	7 (3.48)
All Natural	2 (100.00)	0 (0.00)	0 (0.00)	2 (0.99)
Alternative Food Networks	16 (100.00)	0 (0.00)	0 (0.00)	16 (7.96)
Animal Welfare	1 (10.00)	4 (40.00)	5 (50.00)	10 (4.98)
Farmers Market	33 (82.50)	7 (17.50)	0 (0.00)	40 (19.90)
Grass-fed Beef Alternatives	1 (100.00)	0 (0.00)	0 (0.00)	1 (0.49)
Grass-fed Beef	35 (94.59)	1 (2.70)	1 (2.70)	37 (18.41)
Home Grown Food	4 (100.00)	0 (0.00)	0 (0.00)	4 (1.99)

Topic	Positive (%)	Neutral (%)	Negative (%)	Total (%)
Legislation	2 (7.69)	7 (26.92)	17 (65.38)	26 (12.94)
Local Beef	1 (100.00)	0 (0.00)	0 (0.00)	1 (0.49)
Local Food	24 (96.00)	1 (4.00)	0 (0.00)	25 (12.44)
Organic	24 (80.00)	3 (10.00)	3 (10.00)	30 (14.93)
Sustainable Agriculture	1 (100.00)	0 (0.00)	0 (0.00)	1 (0.49)
Sustainable Beef	1 (100.00)	0 (0.00)	0 (0.00)	1 (0.49)
Totals	152 (75.62%)	23 (11.44%)	26 (12.93%)	201 (100%)

DISCUSSION

This section provides context into the social factors that may, at least partially, explain the results. The discussion begins with a review of the key findings in relation to my objectives: first the types of information that was shared by the media (topic), second, the content of this information (tone), and finally, the source, including origin and location of the information. The discussion ends with a review of the social factors that may influence the media's presence (or lack thereof) in the metropolitan and micropolitan areas of Alabama, followed by the metropolitan and micropolitan areas of Georgia, and finally of the noncore areas (i.e., rural) in both states. The conclusion offers additional insight into the implications of media influence on

consumer purchasing decisions, the consolidation of the newspapers, and the consequences for rural communities.

Between 2007 and 2018 there almost 7,700 AFN articles from newspapers, newswires, and online sources published in the states of Alabama and Georgia. Yet, less than three percent (n=201) were found to be directly pertinent to local and organic beef. This suggests that over the last 10 years there was very little information published in the regional media about AFNs, and even less about local and organic beef. Unsurprisingly, a majority of the articles were published in the primary metropolitan statistical areas of their respective state. Therefore, consumers may lack of knowledge about these AFNs, especially those who live in rural areas.

Topic and Tone

While a majority (75.62%) of the articles had a positive tone about local foods, it is limited to metropolitan and micropolitan consumers. However, few articles were published in rural areas (n=1), which suggests that consumers and farmers in these areas may lack knowledge of AFNs. Of the 14 topics that emerged from the data, farmers markets (n=40, 19.0%), were of the most commonly occurring and were also mostly positive (n=33, 82.50%). Similarly, local food (n=24, 11.94%) articles were positive, which suggests an overarching support of AFNs. This increased knowledge of AFNs among rural residents may result in the recognition of potential economic development opportunities. In addition, this may highlight financial incentives of filling production needs and opening new market channels (i.e., farmers markets, CSAs, AFN production). Since the media is generally supportive of these types of AFNs, should media be more accessible to rural residents, rural readers would be more informed about AFNs. This increased knowledge may result in an increased demand for AFNs in rural areas. Thus, producing organic and grass-fed beef for local sale and consumption, especially via farmers

markets, could be of a potential interest to consumers and could provide a profitable marketing channel for existing cattle producers.

The literature on local foods emphasized that consumers often distrust the FDA and often trust the USDA organic label, however FDA was one of the fewest occurring words in the database (n=9, 4%) (Ikerd 2011; McFadden and Wallace 2017). On the other hand, USDA (n=21, 10%) and label (n=24, 12%) were terms used more frequently. Together the three terms were used in 26 percent of the articles in the database suggesting that they may be important within local food discussions. Collectively, these articles were generally about legislative topics related to food or food production practices. Of these articles, some expressed support by suggesting that legislation would have a positive impact or should be passed. The rest of these articles expressed concerns regarding laws, by emphasizing the potential negative impacts to articulate that the legislation should not be passed. However, as contradictions in prior studies have indicated (McFadden and Wallace 2017, Conner 2004), it is difficult to assess the importance of organic labels in relation to consumer purchasing decisions. This is particularly interesting given how controversial the topic of organics was during the creation of the label (McCluskey 2000; Fisher 1999), and a reason that some consumers moved toward local, and became more interested in the face-to-face interactions with producers.

Cahill, Morley, and Powell (2010) found that more than one third of the articles they studied shared a positive view of organics. While my research focused on AFNs with an emphasis on local and organic beef, organic was the primary topic of almost 15 percent of the articles. Of the organic articles, 80 percent had positive tone. Organic (n=30, 14.93%) was a commonly occurring topic and mostly positive (n=24, 80.00%), yet as of 2016, Alabama was home to only 18 certified organic farms (0.12%) and Georgia was home to 83 certified organic

farms (0.58%) (USDA 2017). In particular, the grass-fed beef articles were overwhelmingly positive (n=35, 94.59%), which suggests the media is supportive and thus could lay the foundation for a greater support of grass-fed and organic beef.

While articles about legislation (n=26) often discussed topics related to animal production, articles focusing on animal care were far less prominent. In fact, surprising is that the phrase “humane handling” had no results, particularly because AFN consumers gravitate toward the values associated with the products they purchase (Conner, Cambell-Arvai, and Hamm 2007). Research shows that humane treatment of animals is one of the most important product attributes for consumers (Conner et al. 2007). Additionally, animal welfare was a major concern after the Westland/Hallmark case, and which occurred during the study. However, little more than three percent (n=7) of the articles used the phrase “animal welfare.” Interestingly, only two articles were published in 2008, the rest were published in 2014 (n=2), 2017 (n=1), and 2018 (n=2).

Source, Origin, & Location

Results of prior studies indicated that an audience’s physical location impacts the volume and types of news coverage that they receive (Turcotte et al. 2017). Further, the literature also suggests that the media plays a central role in informing the public about food issues. Results of this study found that consumers living in metro, primarily, and micro, only secondarily, have much greater access to AFN news. Very little, if any, of this type of news is being shared in micropolitan and noncore (i.e., rural) areas have little, if any, access to this type of news. A contributing issue is the consolidation of newspapers. This research indicated that the 34 newspapers within this study were owned by only 16 holding companies. This suggests that on average every two newspapers are owned by one company, which may shape not only the

content of news articles, but also make rural access to newspapers a growing issue in the future. While it is impossible to know definitively, there are several possible explanations for the greater number of articles published in metropolitan areas, beyond simply population size.

People living in the metro areas of Alabama and Georgia are not only privy to more media information about local foods, but also have a greater number of AFN options. A study by Lambert-Pennington and Hicks (2016) indicates that participation in AFNs is often barred by low income and high cost. Instead, alternative food outlets often cater to affluent communities.

Metro & Micro Areas of Alabama

In Alabama, only one article (0.97%) was published in a noncore (rural) area (Figure 2). Instead, 87 percent (n=90) of the articles were published in metropolitan areas and only 11 percent (n=12) were published in the micropolitan areas (Figure 2). Access to AFNs is also limited in rural areas in Alabama, where for instance, of the 150 farmers markets, 140 farm stands, 144 U-pick operators, and 21 CSAs (Farmers Market Authority 2018), 62 percent are located in the major statistical areas (Figure 2).

Other markers of the growth in AFNs have emerged in these metro areas, as well. For instance, Birmingham, Alabama (Jefferson County) has seen significant growth in local foods including the increasing prominence of farm-to-table restaurants. In 2018 the James Beard Foundation named Highland Bar & Grill of Birmingham the best restaurant in the nation. While it is not necessarily a “farm-to-table” restaurant, it does promote “regional and heritage” ingredients and brings further recognition to the area (Ocean 2018). Huntsville (Madison County), which is near Birmingham, is an engineering center and the home of several “high-tech” educational and military institutions. As a result, the region has a relatively large number

of residents with higher socioeconomic status; 40 percent of the population has at least a bachelor's degree and the median income is roughly \$61,000 (U.S. Census Bureau 2016).

Understanding the media's attention to AFNs in Mobile may be more complex. Its news media serves a broad coastal region (i.e., Mobile County and Baldwin County) that has experienced residential growth as well as increased tourism (U.S. Census Bureau 2016). Mobile and Baldwin counties have a mean income of \$59,000 and \$70,000 respectively (U.S. Census Bureau 2016). Mobile, in particular, is also home to several colleges and universities. Additionally, it is located in the state's specialty crop region, some of which is produced for AFNs. Following the 2010 BP oil spill there was widespread concern about local shellfish safety and a decline in harvest and sales (Christensen and Worosz 2012). In response, the promotion of shellfish as a "local food" (Christensen and Worosz 2012) brought more attention to "local" broadly. In addition, a celebrity restaurant owner promotes grass-fed beef.

Approximately 3.7 percent of the articles (n=8) were published in Dothan. It is difficult to speculate the reason for these articles. However, the city is close to Florida, especially Panama City and Tallahassee, which are large population centers, and the state had a high number of potential AFN articles (Figure 1).

Metro & Micro Areas of Georgia

None of the Georgia articles were published in noncore (rural areas). Instead, the articles were primarily published in the major metropolitan statistical areas of the state (n=83, 77.5%), and secondarily in micropolitan areas (n=24, 22%) (Figure 2).

Georgia is home to several James Beard finalists that bring attention to its food industry overall. In addition, there are many farm-to-table restaurants and several organizations (e.g., Food Well Alliance, Open Hand Atlanta Inc., Atlanta Collective Harvest) that are working to

encourage AFN growth. The Georgia Department of Agriculture created the Georgia Grown program, which offers a label for products grown in Georgia, and serves as a marketing and economic development program (Georgiagrown.com 2019 1). As part of this effort, the department created five trails that run throughout the state connecting agriculture-related tourism hot spots. These trails run through 8 of the 22 counties in which local or organic beef articles have been published. In addition, 40 percent of the school districts in Georgia have farm to school programs (Figueras 2017).

The largest statistical area is Atlanta-Athens-Clarke County-Sandy Springs. It encompasses several (n=9) of the counties in which articles were published (U.S. Census Bureau 2018). Despite a large span in the median household incomes, the average is \$57,000 (U.S. Census Bureau 2018). The region is home to 63 farmers markets, more than 300 community gardens, and over 122 certified organic farms (Figueras 2017). In metro-Atlanta, several local food organizations such as the Food Well Alliance and Georgia organics, as well as local governments have a large impact in regards to shaping AFNs. For example, the city of Suwanee opened the state's largest organic community garden, the city of Norcross created farmers markets with free access to city-owned land and budgeted salaries for market managers (Atlanta's Local Food Baseline Report 2019), and the city of Atlanta has an urban agriculture director (Figueras 2017). In addition to several large universities (i.e., Emory University, Georgia Institute of Technology, Georgia State University), growth in the Atlanta-area film industry may also have an impact on the local foods sector. For example, in support of the entertainment industry upscale, planned neighborhoods have been built to incorporate local foods such as Serenbe Farms and Pinewood Forest.

Following the metro area of Atlanta, Macon and Milledgeville had the greatest number of articles. Macon (Bibb County, metropolitan) and Milledgeville (Baldwin County, micropolitan) both have low median incomes (\$38,000 and \$37,000 respectively) and less than the national average has earned at least a bachelor's degree (25.4% and 19.4%) respectively (U.S. Census Bureau 2018). However, both cities are home to small universities and it is possible that these educational hubs may play a role in regional local food interest.

The cities of Savannah (Chatham County, metropolitan) and Brunswick (Glynn County, metropolitan) also have low median household incomes (\$39,386 and \$24,417 respectively), but they exceed national rates for educational attainment at 33.2 percent and 29.0 percent respectively (U.S. Census Bureau 2018). Regardless, several aspects set this region apart including a number of popular farm-to-table restaurants and tourism. St. Simons Island, for instance, attracts wealthy vacationers as it is home to the Forbes five-star Sea Island Resort. The Georgian Room, one of the resort's in-house restaurants, promotes local foods.

Augusta, located in the Augusta-Richmond County metropolitan area and shares similar demographics to Savannah (i.e., 21.3 percent with a bachelor's degree, median household income of \$39,258) (U.S. Census Bureau 2018). However, Augusta is also home of the Masters, a major PGA tournament, which attracts 35,000 to 40,000 tourists annually (Golf News Net 2019).

Dalton (Whitfield County), a metropolitan statistical area in the northwest portion of the state, published the fewest number of articles (n=2). It has relatively low educational attainment (i.e., 14.6 percent with a post-secondary degree) and median income (i.e., \$43,000) (U.S. Census Bureau 2018), but it is also close to Chattanooga, Tennessee, which has a thriving local food sector.

Noncore (Rural) Area

Notable, of course, is the lack of beef AFN news in non-metro areas of both Alabama and Georgia. These data suggest that people living in rural areas of these states generally have very limited access to local news. This may be in part due to the consolidation of newspapers under central holding companies. Lack of access to news, ultimately, has a major impact on consumers living in rural areas. This is because the demographics of these areas (i.e., population size, median incomes, education), provide little financial incentive for large holding companies to continue publishing news—particularly locally-focused news. Studies (Bauman 2018; Miller et al. 2012) find that rural residents rely heavily on print newspapers and broadcast TV as their source of news. Furthermore, research indicates that people in these areas, and more specifically those living in the southern states, have less access to and the lowest subscription rates of broadband (Martin 2018; American Farm Bureau Federation 2019). This lack of broadband makes access to other forms of news media (i.e., social media, online news) difficult. Therefore, as a result of the continued consolidation of news media, rural residents have a consistently decreasing ability to access news information.

Access to news is not only important, but also impacts residents' consumption of media. In a study to understand local news consumption habits, the Pew Research Center found that rural residents are generally less interested in local topics and are more reliant on traditional news platforms such as local newspapers and local TV than those in large cities, suburban areas, or small towns (Miller et al. 2012). In the survey, rural respondents indicated that they rely more on word of mouth for some types of local information and are less likely than their larger city counterparts to say it is “easier” to keep up with local news and information today than it was five years ago (Miller et al. 2012). This may be explained, in part, by rural American's reliance

on traditional media (i.e., print newspaper and broadcast TV) and more limited access to broadband (Bauman 2018; American Farm Bureau Federation 2019). According to U.S. Census data, a majority of adults (across metro, micro, and rural areas) said that their local news sources provide all or most of the information that matters to them (Bauman 2018). In addition, rural respondents were less likely to follow information about local restaurants in the news (Bauman 2018). Reliance on traditional media and limited access to broadband may provide one explanation for why rural grocery store consumers tend to be less familiar with the concept of local (Telligman, Worosz, and Bratcher 2017) and why these consumers claim that no one influences them in their purchases of local beef, even during a food safety event (Richardson and Worosz 2017).

CONCLUSION

Understanding the content of media coverage can provide significant insight into the ways in which the media may shape perceptions and opinions of consumers (Miller et al. 2016). Considering the articles studied in this project were overwhelmingly positive (75.62%) toward AFNs, there is evidence to suggest that the media might influence consumers to support AFNs. While the media plays a central role in sharing food-related information, there are many consumers, especially those living in noncore areas, who lack access to that information because of structural changes in the media (i.e., consolidation of newspapers, online platforms). This lack of news is especially the case in the traditional Black Belt counties of Alabama and Georgia. A total of three newspaper articles were published in one Alabama county ($n=1$) and one Georgia county ($n=2$). While this lack of news access is concerning in terms of having access to important information (i.e., food recalls, current events), it also has an impact on the potential

marketing channels that are available to local producers, which ultimately has an impact on economic development opportunities in these areas.

Considering there has been a significant increase in interest and demand in AFNs, especially farmers markets and farm stands, AFNs may be a missed economic opportunity for both producers and rural communities. While I cannot say definitively, it is possible that if Alabama and Georgia consumers, particularly those living in rural areas, had greater access not only to news, but especially to news about local foods, there may be a greater demand for these products, particularly local beef, and a subsequent economic development opportunity for these communities.

In terms of production, consumers' increased demand for AFNs may provide financial incentive to create the necessary supply chains to serve rural areas. This is especially the case for Southeastern beef farmers. In the state of Alabama alone, there are 20,004 beef farms. Of these 20,004 farms, 70.7 percent are small farms having less than 50 head (USDA 2017). Similarly, the state of Georgia is home to 14,869 beef farms, 82.9 percent of which have less than 50 head (USDA 2017). Although there are many small farms producing beef in these areas, other aspects of the production chain, namely processing facilities, limit farmers ability to process, pack, and sell beef for local consumption.

The number and location of state-inspected processing facilities has a major impact on farmers' local beef marketing opportunities. For example, due to the high costs resulting from federal inspection of meat, many small meatpackers have been put out of business, which limits opportunities for small-scale producers, especially those interested in raising natural, grass-fed, organic, and local beef (Worosz, Knight, and Harris 2008). This is especially the case in Alabama, where, at last count, there were 29 state-inspected slaughter and processing facilities

(Prevatt, Fields, and Kerth 2005). A majority of these processing facilities, (n=23, 80%) are located in metro or micro areas. Only six (20%) are located in noncore areas of the state (Prevatt, Fields, and Kerth 2005). In order to make the selling of local beef profitable for Alabama producers and beneficial for noncore communities (i.e., in terms of economic development), it is necessary to increase the number (i.e., availability) of state-inspected slaughter and processing facilities in these areas. Georgia also has few (n=30) state-inspected slaughter and processing facilities (Georgia Department of Agriculture 2018). A majority of the state-inspected facilities in Georgia are located in micropolitan areas of the state (=14, 46.7%), 33 percent (n=10) are located in metropolitan areas, and 20 percent (n=6) are located in rural areas. This gives small-scale beef producers in Georgia and Alabama a limited opportunity to market their beef locally.

The literature suggests that relocalization of food production such as this, may provide economic development benefits to the community, as well (Feenstra 1997). Direct to consumer sales are one option in relocalization. Farm operations with direct-to-consumer sales of food increased nationwide from 116,733 to 144,530 between 2002 and 2012 (Key 2016). Yet, while the southeastern U.S. is home to more small farms than any other region of the country, as of 2010 it has the fewest number of farms (roughly 10%) that engage in direct-to-consumer sales (Ahearn and Sterns 2013). This suggests that if consumers in these areas had a greater knowledge of AFNs, and if AFN supply chain infrastructure (i.e., slaughter facilities, sales opportunities) were more available to small-scale beef producers in Alabama and Georgia (especially noncore areas), there may be economic benefits for producers especially in an increasingly competitive business environment (Key 2016).

Limitations

This study is limited to the news outlets and source types that are available on Access World News (AWN). Including an alternative data collection method, especially internet scraping, may allow the research to identify news sources that are not available in AWN such as Yahoo News and Google News. Further, this study fails to address information that is shared on social media outlets (e.g., Facebook, Twitter), which are utilized by roughly 65 percent of adults (Perrin 2015). The internet, which serves as an extremely important platform for exchanging ideas via social media, has achieved penetration of 77.4 percent in North America (Zahariadis, Pau, and Camarilo 2011). In fact, in a recent study that surveyed journalists, 40 percent indicated that social media are very important to their work (Weaver and Willnat 2016). Additionally, because rural residents still rely heavily on broadcast news as a significant source of information, future research should conduct a wider analysis of TV transcripts.

The initial keywords were selected based on peer-reviewed literature and preliminary analyses, so it is possible that some omitted were important. Journalists may use different language than used in peer-reviewed literature. In fact, Weaver and Willnat (2016) found that approximately 75 percent of the journalists shared that they use social media to gather information for their stories. This suggests that they may be more likely to use language derived from the general public and less likely to use terms found in academic work. For example, due to animal welfare issues that occurred during the timeframe (i.e., Westland/Hallmark), it was surprising that so few articles used the phrases “animal welfare” and “humane handling,” which are common phrases used in academia. Because issues of animal welfare and humane handling were not the focus of this study, I did not consider terms or phrases such as animal abuse or animal cruelty which may have garnered a greater number of articles. However, future studies

should also include terms associated with animal welfare labels. While some of this language emerged in the content analysis (e.g., animal welfare, locavore, farm-to-table, home grown), time limitations prevent additional searches. Coding for topic and tone is subjective and may be prone to error. Effort to address these errors has been made, but slight variations are still possible. Additionally, current events that occurred since the end of data collection have an impact on the types of information within the dataset. For example, had the timeframe of study been extended, results might have included articles about beef alternatives such as “impossible burger” or “beyond burger.”

Additionally, this study focuses on media in the state of Alabama and Georgia, however these findings would be more robust if it included data from states in other regions of the United States (e.g., Pacific Northwest, New England), which have thriving AFNs. For example, research on beef production in Vermont indicates an opportunity to further develop a supply chain for grass-fed beef that would economically benefit local producers but also expresses concerns in regards to the lack of a universal definition for grass-fed (Rose and Matthews 2017). Including these regions, as well as social media, and other media sources (i.e., internet sources) would provide a more robust perspective as to how U.S. consumers are influenced by the media when making local food purchasing decisions.

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