

Introduction

The production of industrial hemp has been proposed as a new opportunity for agriculture in Florida, potentially supplementing the void created by the Florida's declining citrus industry (Rozsa, 2019). Along with increasing interest in the production of industrial hemp, discussions regarding the purpose and potential of hemp production are growing among producers, researchers, policymakers, and the general public. Because of its close association with marijuana, policies supporting the production of industrial hemp could be perceived as initial efforts to legalize marijuana. Due to this close relationship, an unfamiliar public or uninformed policymaker may misunderstand the purpose of industrial hemp and potentially influence the legislation or regulation associated with it. It is important to understand what information is available and how it is framed to determine the level of knowledge of these groups. Determining this level of knowledge serves as the foundation to understand the potential decision-making power of the public and policymakers in relation to decisions regarding industrial hemp in Florida. Framing is a method of intentionally communicating certain pieces of a message in an effort to simplify or promote desired parts or intents of a message (Entman, 1993). This study sought to determine how industrial hemp production in Florida was framed in the state's major newspapers. Newspapers were selected as the medium for this study because of their reliability as a key information source among adults (Rosenstiel et al., 2011).

Literature Review

About Industrial Hemp

Hemp is one of the earliest known cultivated crops, potentially predating the cotton plant (Fortenbery & Bennett, 2004). Because hemp, along with marijuana, is a variety of *Cannabis sativa L*, industrial hemp is often associated or confused with marijuana (Fortenbery & Bennett, 2004). Both plants are similar in appearance but differ greatly in the amount of delta-9-tetrahydrocannabinol (THC) contained (Fortenbery & Bennett, 2004). Industrial hemp contains less than 1% of THC on a dry-weight basis, while marijuana contains 3-15% (Fortenbery & Bennett, 2004). THC is the psychoactive compound that causes a "high" and can only be determined by a lab-conducted chemical analysis (Rozsa, 2019). Hemp is an annual plant that can be grown for its fiber, seed, or for both purposes (Fortenbery & Bennett, 2004). The stem, seed, and inflorescence of the plant are used in a variety of applications, including plastics, oils, fabrics, and biofuels (Tancig, Brym, & Kelly-Begazo, 2019).

Hemp Policies and Regulation

The regulation of hemp, along with agencies responsible for the regulation of hemp, have changed throughout history. After passing the Marijuana Tax Act in 1937, the production of marijuana (and subsequently hemp) was prohibited and controlled by the U.S. Treasury Department (Fortenbery & Bennett, 2004). Until the 2018 Farm Bill, hemp was considered a controlled substance under the Controlled Substance Act (Rusnak, 2019). The U.S. Drug Enforcement Agency opposed the production of industrial hemp because of the difficulty to distinguish hemp from marijuana (Vantreese, 1998). The 2018 Farm Bill gave the United States Department of Agriculture full regulatory control of hemp and removed the crop from the

Controlled Substance Act (Rusnak, 2019). Following the federal government's action, the Florida legislature legalized commercial hemp production in May 2019 (Sutta, 2019).

Hemp Production Research

Legislation in Florida granted the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) approval for hemp pilot projects, joining more than 30 states in similar research or production (UF/IFAS, 2019). The pilot project will determine the varieties of hemp most suitable for Florida's environment, create management practices and systems, and investigate the risk of invasion (UF/IFAS, 2019). The intent of this pilot project was to predetermine the economic factors associated with industrial hemp production before farmers begin investing in plants and machinery.

Framing

The multiple facets associated with industrial hemp, including policy and economic impact, are all unique perspectives influencing conversations in the media. To understand and determine the level of influence, framing was used as the theoretical framework in this study. Entman (1993, p. 52) articulated the process of framing:

Select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem, definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described.

Increasing the salience of a message enhances the likeliness of a receiver perceiving, processing, and storing the information (Entman, 1993). In addition to calling attention to specific aspects, frames also direct attention away from other aspects of an issue (Entman, 1993).

From a journalistic perspective, Gans (1979) determined that framing is a tool used to reduce the complexity of a story or message in order to meet various types of constraints. Framing is also based on the assumption that an issue or topic discussed in news can have an influence on how the audience understands the issue (Scheufele & Tewksbury, 2006).

Framing and Cannabis

Similar studies have been conducted to analyze frames associated with the legalization of marijuana, also a variety of *Cannabis sativa L.* Most recently, Kim & Kim (2018) analyzed ten national newspapers and discovered that articles regarding the legalization of marijuana were mostly framed as a legislative or law enforcement issue. Other frequently used frames included an economic frame and medical effect frame (Kim & Kim, 2018). In addition to these frames, discussion about marijuana legalization has mainly been focused with a law or policy theme, (Golan, 2010; Lewis et al., 2015; McGinty et al., 2016). Kim & Kim (2018) also found differences in most frequently used frames when comparing presidential administrations, with various frames being used per political affiliation.

Opinion Leaders

Opinion leaders are individuals central to a community or audience and understood to be influential (Valente & Davis, 1999). With this influence, opinion leaders are ideal to communicate complex or difficult topics to their respective audiences (Nisbet & Scheufele, 2009). Industries like agriculture, where science communication is imperative, are encouraged “to mobilize specially trained opinion leaders who can bridge the communication gap between news coverage and inattentive audiences, talking to their friends, family, and co-workers about the relevance of science-related issues...” (Nisbet & Scheufele, 2009, p. 1776). Opinion leaders are often viewed as trusted and credible sources of information as trust in media declines (Nisbet & Scheufele, 2009); therefore, it is important to understand the role of opinion leaders in communicating about hemp production as it enters the political arena with the media.

Purpose and Research Questions

Since the 2019 Florida Legislative session, little research has been conducted on the information disseminated by mass media regarding the legalization and impact of industrial hemp production. Given the complexity of industrial hemp and successful legislation, this information may have influenced views of policymakers and consumers. To determine how the discussion was framed, the following research questions (RQ) were proposed:

RQ1: How did Florida newspapers frame articles related to industrial hemp production?

RQ2: What research and scientific sources were used by Florida newspapers to discuss industrial hemp?

RQ3: What opinion leaders were quoted or referenced regarding the production of industrial hemp?

Methods

The purpose of this study was to determine how Florida newspapers framed industrial hemp production before and after the 2019 state legislative session. The findings of this study contribute to the understanding of how consumers’ opinions of industrial hemp may be influenced by the media and help inform strategies used to communicate about the agricultural commodity. To explore the media coverage surrounding the legalization of industrial hemp production, a conventional qualitative content analysis was conducted (Hsieh & Shannon, 2005). A conventional qualitative content analysis interprets meaning from text data and coding categories emerge directly from the text (Hsieh & Shannon, 2005).

Data Collection

Newspapers were selected as the medium for analysis in this study because of their perceived credibility (Flanagin & Metzger, 2000). Because industrial hemp production is state-regulated, and production was recently approved by the state legislature, only Florida newspapers were considered for the study. The five newspapers in Florida with the highest circulation numbers were the *Tampa Bay Times*, *Sun Sentinel*, *The Orlando Sentinel*, *The Miami Herald*, and *The Palm Beach Post* (Agility PR, 2019). Considering that industrial hemp was highly debated in the 2019 legislative session, articles from two months before session (March 1) through October 2019 (time of study) were included in the study. This timeframe includes discussion before,

during, and after the legislative session, as well as the early stages of implementation and regulation.

Articles analyzed in this study were retrieved using the online Access World NewsBank database. The term “hemp” was used to search articles that discussed hemp in headlines and in all texts. Articles were excluded from the study if they contained less than 100 words, were duplicates, or contained irrelevant content. The initial search included a total of 163 articles. Of the 163 articles, 129 were removed from the sample because they did not meet the study parameters. The final sample consisted of 34 articles that were analyzed, with each of the articles being assigned a unique identification number.

Data Analysis

Each of the 34 articles were read by the primary researcher, who assigned codes throughout the lines of text using an inductive approach (Harding, 2018). After the articles were read the first time, the researcher analyzed the codes to determine the initial set of emergent themes. The articles were then read a second time to consolidate the codes into larger, overarching themes and verify the findings from the first read were accurate, resulting in three major themes representative of all 34 articles. In addition to the codes and emergent themes from the content, each article’s newspaper name, newspaper location, date published, number of words, and headline were recorded for identification purposes. The primary researcher recorded major and secondary frames (RQ1), sources of scientific information (RQ2), and individuals mentioned or quoted in the article (RQ3).

Inductive analysis was conducted on the sources included in this study. Thomas (2006) mentioned that general inductive analysis should be used to condense extensive and varied raw text data into a brief, summary format. To do this, some assumptions were made: Analysis is guided by both the research questions and interpretations of raw data, the primary mode of analysis was in creating overarching themes from raw data and contextualizing them into a framework (Harding, 2018). In order to conduct this analysis, codes need to be placed on a level playing field and delimited into broad overarching themes that represent the essence of the phenomenon being examined (Moustakas, 1994). According to Tracy (2010), trustworthiness in qualitative research can be enhanced through multiple interpretations of raw data and triangulating the data. This was completed by reading each article at least twice before developing codes and themes. The primary researcher coded the data and discussed coding decisions with the secondary researcher to ensure reliable interpretations of the data (Yin, 2011).

Findings

Of the 34 articles analyzed, 13 articles appeared in *The Miami Herald*, 11 were from *The Orlando Sentinel*, four were from each *The Palm Beach Post* and *The Sun Sentinel*, and two articles were from the *Tampa Bay Times*.

RQ1: Frames

The analysis of articles mentioning hemp production revealed three primary frames: political, potential, and problematic.

Political Frame

A political frame was used most often in the articles analyzed in this study, potentially due to the date range chosen for the study. The political frame included discussions regarding the legislative process of the hemp production bill, responsibilities associated with regulation, and political parties and positions associated with hemp production legislation. Several articles associated the industrial hemp legislation to the newly elected Democratic Commissioner of Agriculture, Nicole “Nikki” Fried. A political frame was heavily relied upon in articles that were published during 2019 legislative session (January through May). Senator Rob Bradley mentioned the impact of the legislation in the *Tampa Bay Times*, stating, “This may be one of the most significant things we do this session.” A number of articles associated the hemp legislation with Commissioner Fried’s political campaign agenda:

“Fried, a Democrat elected in November who made increasing access to medical marijuana one of the cornerstones of her campaign...”

“Florida’s new agriculture commissioner is more likely to be seen standing next to a marijuana plant than stomping around in cowboy boots.”

“...campaigned on weed, weapons and water.”

Potential Frame

This study revealed “potential” as another dominant frame. This frame referenced the economic, agricultural, and consumer-related potential for industrial hemp in Florida. Economic potential-framed discussions were often associated with the amount of money the industry could bring into the state’s economy. Commissioner of Agriculture Nikki Fried is quoted in an article in *The Orlando Sentinel* that the hemp marketplace in Florida is expected to be \$20-30 billion. Other examples of economic potential were quoted as followed:

“Florida is now on the verge of establishing a state hemp program and creating a multibillion-dollar industry.”

“We could be a major distribution hub for the world and the United States...”

“The markets are endless...it’s actually overwhelming.”

The agricultural potential frame is closely related to economic impact; however, the frame is mostly used to position industrial hemp as a new specialty crop for Florida farmers. This frame was often used to propose the production of industrial hemp as a replacement crop for Florida’s deteriorating citrus industry, tomato growers, and producers significantly affected by Hurricane Michael. An article’s title in *The Miami Herald* included the phrase “The state’s farmers have a new potential cash crop.” Additional examples of agricultural potential were quoted as followed:

“There is no question that homegrown, Florida hemp will play a major part in strengthening our state’s agricultural and economic vitality.”

“After all the horrible things agriculture has had to deal with in Florida, this plant can revitalize and create new and exciting opportunities.”

A number of articles included a potential for a consumer-related interest. In most cases, this included a list and description of the uses of industrial hemp. Most prevalent in the articles was the use of cannabidiol (CBD) for relieving pain, reducing anxiety, and aiding sleep. Additionally, some of the discussion focused on the consumer safety that the legislation would bring to Florida’s consumers. *The Sun Sentinel* quoted a Florida Department of Agriculture and Consumer Services official stating, “Once that legislation becomes law, CBD products can be tested, regulated and legally sold with the consumer safety protections Floridians expect.”

Problematic Frame

The least common of the three primary frames was the problematic frame, encompassing discussion related to the negative impacts and implications of the production of industrial hemp. Problematically framed discussions were discovered in the more recent articles, reporting issues with law enforcement and roadblocks in developing regulation. Most problematically framed articles were published after Florida's legislative session through July 1, when hemp laws actually became effective. Once effective, some articles highlighted complications with law enforcement's "sniff and search" protocol. An article in *The Palm Beach Post* described an incident where a grandmother was arrested at an Orlando theme park for possession of CBD in May, prior to July 1. Other mentions of law enforcement issues included:

"With hemp law, 'sniff and search' goes up in smoke..."

"Hemp products look and smell exactly like marijuana products."

"The odor of marijuana – by itself – is no longer probable cause for a search..."

"Because hemp and illegal cannabis are so similar in appearance and smell, the new amendment also makes it more difficult for police officers to obtain probable cause to search someone's vehicle..."

"...agencies in other parts of the state have said that the amendment has crippled their ability to pursue marijuana-related charges."

Other problematically framed articles could also be associated with a political frame, reporting issues with elected and appointed officials. An article in *The Sun Sentinel* summarized a conflict with multiple advisor boards being created to develop rules for the state's hemp program. The article opened:

"It's a battle of advisory boards, pitting a single Democrat against a powerful pair of Republicans, with the future of what could become a multibillion dollar cash crop in the balance."

RQ2: Sources for Scientific Information

Maxwell (2010) argued that the use of numerical data had a purpose in qualitative data when it was used to articulate the frequency of emergent data. Therefore, it is important to note that scientific sources were rarely used. In fact, only one article included a scientific source. Half of the articles included a distinction between hemp and marijuana, with only the single article citing a source. This article, in the *Tampa Bay Times*, cited the University of Florida's Hemp Pilot Project when describing the hemp plant and its uses. UF/IFAS was mentioned in nine articles, primarily in association with the pilot project to gather research and information. Other articles describe the hemp plant, the distinction between hemp and marijuana, define THC and CBD, and discuss potential uses, but do not quote or cite an information source.

RQ3: Opinion Leaders

A broad range of individuals were quoted across the articles. A total of 69 different individuals were quoted in the included articles. The state's cannabis director, Holly Bell, was quoted most often across the articles, followed by Commissioner of Agriculture Nikki Fried. Both were often associated with the potential frame, highlighting the potential impact and solutions industrial

hemp could bring to the state. Senator Rob Bradley was quoted in four articles as the sponsor of the senate bill. Commissioner Fried was often mentioned in articles using a political frame.

Most individuals quoted in the articles held a political office. Other notable groups include trade association representatives, lobbyists, cannabis business owners, and farmers. Cannabis business owners highlighted the potential and growth opportunities associated with hemp production. Farmers and producers were the least quoted group in the articles analyzed, although all quoted farmers supported hemp production in the state.

Conclusion/Discussion

The results showed that the common frames used to discuss industrial hemp production in Florida newspapers included politics, potential (agricultural and economical), and implementation problems. An overwhelming majority of the articles used political and potential frames, distracting the reader from potential issues associated with industrial hemp production as mentioned in the problem-framed articles (Entman, 1993). When discussing the science of industrial hemp production, a single scientific source was cited in only one article included in this study. Political leaders were among the top individuals quoted in articles with a majority supporting industrial hemp production. This does not reflect the vast amount of scientific research currently underway surrounding hemp production. From these findings and the heavy use of political frames, it may be determined that the public is relying on political leaders to correctly interpret science to create appropriate policies and regulation. Elected officials and other opinion leaders may have convinced readers on the agricultural and economical potential of hemp production with minimal scientific information.

The analysis of media coverage regarding industrial hemp revealed that the politics, potential for agriculture and the economy, and implementation issues were discussed the most in Florida newspapers. Each of these frames were dominant in certain months along the selected timeline of samples. Consistent with previous studies and the common legislative and economical themes (Kim & Kim, 2018), political and potential frames were dominant prior to and during the legislative session, with most articles introducing industrial hemp and its potential impact and uses. After the legislative session and successful passing of the hemp program bills, the problematic frame began to appear as implementation issues began to arise. Further research should explore the frames used in other forms of media, including social media (e.g., Twitter), because platforms like Twitter have increased the voice and dominance of previous discourse conversations (Jones-Jang et al., 2020).

UF/IFAS was the only cited source of scientific information across all of the articles. Most notably, only one article even cited scientific information. Scientific information in articles included the description of hemp, the distinction of hemp and marijuana, the uses of industrial hemp, and the environmental advantages Florida provides for industrial hemp production. Further research should explore the sources of this information and the potential trust issues associated with not citing this information. Additionally, Jones-Jang et al. (2020) indicated that unverified scientific claims, deemed hoax frames, are a rising challenge in media, so agricultural and science communicators should consider establishing relationships early with reporters to ensure trust as a source of information.

Quotes and references in the articles were mainly from political leaders, or other individuals associated with policy making and government. All legislators quoted in the articles were in support of industrial hemp. Farmers and producers were quoted the least, but also

supported hemp production and mentioned interest in getting involved. Further research should determine the information sources of these opinion leaders, as well as compare this support to media coverage in other states where industrial hemp production was a focus in the legislature. Kim and Kim (2018) found that frames fluctuated with different presidential administrations, so an in-depth investigation is needed to understand how the bipartisan electorate may influence the framing of topics such as industrial hemp production.

There is an important opportunity here for scientists and science communicators to contribute to public understanding of hemp production. Political communication has its place in an industry that will involve a great deal of regulation. It is also important, however, for citizens and leaders to understand the science involved. Future research endeavors in hemp production should actively include outreach to citizens and leaders to help facilitate understanding.

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