# Covering Climate Change: A Content Analysis of the *Progressive Farmer* Magazine

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## Introduction/ Need for Research

Climate change manifestations will have an increasing impact on agriculture through both regulatory policy actions and on-farm conditions like drought, increasing temperatures, and more destructive natural disasters (IPCC, 2019; Thornton, 2018). Despite the resounding scientific consensus that anthropogenic (human-produced) greenhouse gases have caused a notable increase in the Earth's temperatures, there is widespread skepticism of anthropogenic climate change amongst farmers (Morrison et al., 2017; Easton, 2016; Jemison, 2014). This skepticism prevents farmers from both adopting climate-smart techniques on their operations and utilizing their industry knowledge in policy discourse and has been attributed to the politicization and complex nature of climate change science (Arbuckle et al., 2015). President Joe Biden has announced his plans to reach net-zero emissions for the American economy by 2030, and private companies like Smithfield, General Mills, and Kellog have already reacted to international regulatory pressures and the impending domestic regulation by enforcing their own mandates on sustainability (Hillyer, 2020; Smithfield, 2020). Regardless of whether producers believe in anthropogenic climate change, many will need to bolster their operations against manifestations and avoid top-down policy lacking the diverse agricultural perspective.

The AAAE Research Priority 7 addresses complex, interdisciplinary problems like climate change—but little research investigates the nature of climate change agricultural media coverage or its implications on current beliefs. In fact, this study was the first American analysis of climate change coverage in agricultural media. This study addresses the large research gap, but developing interest, surrounding climate change communication in the agricultural industry. The purpose of this study was to explore the nature of climate change coverage in the leading agricultural magazine, *Progressive Farmer*.

## Conceptual/ Theoretical Framework

Agricultural magazines span generations to reach the widest audience of agricultural news. The 2018 Agri Media Council Media Channel Study found that agricultural magazines remain the top resource used on a weekly basis by producers, even considering the data of increasing digital influence (SIIA Connectiv, 2018). Their reach and established influence renders magazines powerful characters in the opinion formation process regarding climate change (McCombs & Shaw, 1972). Understanding the nature of this influence can reveal one variable of influence on producer's current skepticism and provide insight to effective messaging recommendations moving forward. Erving Goffman's (1974) theory of framing was used to structure this study and understand the nature of the articles. Goffman wrote that how stories are told influences how people process that information. Because agricultural magazines are widely trusted and consumed, the frames employed will affect how the reader thinks about climate change.

## Methodology

To understand the nature of coverage in *Progressive Farmer*, the researcher created, tested, and utilized a derivation of Arbuckle et al.'s (2015) framing codes for analyzing Swedish climate change coverage in agricultural publications. Progressive Farmer archives from 2018-'20 were searched for articles including the words climate change, global warming, greenhouse gas, and emissions, resulting in 15 articles. Of these, only 11 articles provided enough context on climate

change to properly analyze them, thus resulting in an 11-article sample. All 11 articles were coded by two coders for article type, commodity mentioned, frame, economic burden/opportunity, benefits of climate change, cause of climate change, recommended action/proposed solution, and dominant logic. Face validity was established through rigorous professional review of the codebook and comprehensive coder training. Appropriate intercoder reliability, considered a Krippendorf Alpha of 0.8 of higher (Krippendorf, 2004), was reached on all major variables.

## Findings

The coding process revealed that the dominant frame employed was the scientific certainty frame ($n$ = 64%) with the others being framed in conflict. All articles were news articles, with none being opinion in type. The most frequently mentioned commodities were beef ($n$ = 5) and corn ($n$ = 8). Only one article included a potential benefit of climate change, saying some crops may experience longer growing seasons. Nine articles posed that human activity was the explicit cause of climate change, with two making no mention of causation. Eight of the articles recommended an action or proposed a solution for producers, and these suggestions included reduction of greenhouse gases ($n$ = 7), carbon sequestration ($n$ = 4), no-till ($n$ = *3),* cover-cropping ($n$ = 3), and adaptation generally ($n$ = 5). Six articles included economic opportunities of these actions. All articles shared a dominant logic of "convinced" regarding anthropogenic climate change's reality.

## Conclusions/ Recommendations

Similar studies in Canada and Sweden did not find these same frames, which suggests the way journalists cover climate change is fluid and influenced by the context of time and place (Asplund, 2012; Davidson et al., 2019). *The Progressive Farmer* prides itself on "delivering data driven information," which explains why they adhered to frames of scientific certainty, news articles, and a convinced logic (DTN, 2021). To contribute to the culture of climate change acceptance, research suggests articles should continue to be framed in scientific certainty (Arbuckle et al., 2015). Budding discipline research indicates that farmers are more likely to adopt climate-smart practices when messages forgo mentioning climate change, thus bypassing their skepticism, and instead highlight economic benefits, improvement in soil quality, and other benefits of adaptation and mitigation practices (Davidson et al., 2019). This technique was employed in many of the sample articles, as seen in the inclusion of economic benefits of practices like carbon sequestration and other benefits of no-till and cover cropping as solutions.

We recommend additional content analysis research on modern and historic coverage of climate change in other influential agricultural publications. Magazines with a lifestyle/entertainment or commodity focus, such as *Farm & Ranch Living* and *Drovers*, should be analyzed to gather greater insight on industry-wide communications and help create effective messaging recommendations specific to agriculture. We recommend messages focus less on convincing producers of climate change and more on the benefits their action can have in the policy arena and on their operations.

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