

**Family, Patriotism, and Land Stewardship: Employing the Rural Ideal to Champion Corn Ethanol in
Minnesota**

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Abstract

Thomas Jefferson declared American farmers “the most vigorous, the most independent, [and] the most virtuous” (Jefferson 1785). Although farming has dramatically changed since then, Thomas Jefferson’s words serve as the foundation of the current rural ideal, and the rural ideal still resonates with many Americans. One significant, recent change in farming is the growth of biofuels on land formerly used to produce food. As the agrarian ideal encounters this shift in farming, how are traditional rural values harnessed to promote and market corn ethanol as a biofuel? The Minnesota Corn Growers Association (MCGA) pairs the rural ideal and ethanol in a recent advertisement campaign. I argue that the MCGA has employed the rural ideal to frame corn ethanol as a beneficial product for Minnesotans and our environment by emphasizing the themes of family and multi-generation farming, connection with the land, and patriotism and local pride. By drawing on the concept of the rural ideal, I contend that the MCGA presents a picture of the corn ethanol industry that disregards important environmental problems. The image that the association conveys is one reality of corn ethanol, but it is not the only.

Introduction

On August 23, 1785, Thomas Jefferson wrote that, “cultivators of the earth are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous, and they are tied to their country and wedded to its liberty and interests by the most lasting bonds”(1785). When Jefferson wrote this letter, approximately 90 percent of Americans were farmers. Since 1785, farming in America has changed significantly. As of the 2007 census, only 2-3% of the population was farmers (*Census of Agriculture 2007*). In addition, the introduction of fertilizers, technology, and genetically modified crops has fundamentally altered the occupation of farming.

Although farming has been transformed, Thomas Jefferson’s words still resonate with many Americans. Farming and rural life have been an integral part of America since its founding, and they have taken on almost mythical connotations in the form of the rural ideal, or agrarian myth. The rural idealism that is so common in American culture and discourse becomes even more complex when considered in the context of the realities of modern farming, including the development of biofuels.

Biofuels are a new realm of agriculture because they use crops and land that were previously devoted to food production. In the past few decades, producing biofuels from agricultural crops has become increasingly common in the United States and Minnesota. Corn is the primary crop that is used to produce biofuels, and the U.S. produces 32% of the world’s corn (*World of Corn 2013, 2*). In Minnesota, almost 40% of corn goes into ethanol production (Ye 2012, 6). This means that a substantial amount of land is being used for corn and subsequently for ethanol production. Even though growing corn for the production of ethanol is a new use of agriculture, the rural ideal has become an integral part of the ethanol story in Minnesota.

The Minnesota Corn Growers Association is a major force in the Minnesota ethanol industry. Their purpose is to “expand the use, marketing, and efficient production of corn for the benefit of corn producers” (*About MCGA*). They are instrumental in lobbying at the state and national level, working with farmers to maximize yields, and doing corn-related research.

A recent advertisement campaign by the Minnesota Corn Growers Association promotes the virtues of corn ethanol to the public and exemplifies the pairing of the rural ideal and ethanol. These corn and ethanol advertisements can be seen on billboards along every major highway, heard on numerous radio stations, and viewed on local television. I argue that the MCGA has employed the rural ideal to frame corn ethanol as a beneficial product for Minnesotans and our environment by emphasizing the themes of family and multi-generation farming, connection with the land, and patriotism and local pride. However, I contend that by drawing on the agrarian myth the Minnesota Corn Growers Association presents a picture of the corn ethanol industry that disregards important environmental problems. The image that the Minnesota Corn Growers Association conveys is one reality of corn ethanol, but it is not the only one.

First, I identify the primary characteristics of the rural ideal, examine the characteristics believed to be fostered by agrarianism, the influence this ideal has, how it has been presented in the media and advertising, and how this myth relates to previous biofuels research. After exploring the agricultural ideal, I consider how the

Minnesota Corn Growers Association uses different aspects of the agrarian myth to advertise and promote ethanol. Finally, I examine how the Minnesota Corn Growers Association is disregarding other aspects of corn ethanol by relying on the rural ideal.

Literature Review

Although the definition of the agrarian myth or rural ideal has changed over time with advance in agricultural technology, the basic characteristics have remained consistent. A standard definition from the *Encyclopedia of Community* says:

The agrarian myth is the belief that the most desirable form of community is found in rural, specifically agrarian [life]. In the agrarian village, fundamental Western values such as a strong work ethic, independence, and integrity are supposedly fostered and passed from one generation to the next. Consequently, declines in the value of agrarian life and agrarian villages are seen as signals of an even larger decline of society itself (Christensen and Levinson 2003, 27).

This definition indicates that the agrarian myth not only refers to a way of life or a place, but that agrarianism produces a citizen with certain characteristics and abilities. According to John Logan (1997), the rural ideal states that farmers are hard-working, independent, family oriented, community focused, and connected to the land they farm. Thomas Jefferson revered farmers as the very foundation of democracy and economic stability. The region of the United States referred to as the Corn Belt is the same general area that is called the Heartland. This is not a coincidence: the idea that farmers constitute the heart of America is commonplace. Therefore, if the heart of America is suffering, this is often believed to be an indicator of larger societal problems. Though only 2-3% of Americans are farmers, they receive a far greater share of attention. The agrarian perspective holds considerable sway in society and is powerful in what ideals it incorporates. The *Handbook of Rural Studies* says:

What is the rural idyll for? It is first and foremost a symbolic landscape into which is condensed and onto which are projected a whole host of things: identifications, imaginings, ideologies. It is, perhaps most importantly, a receptacle for national identity ... It is also a reminder of the past – usually a golden past now lost in the rush to modernity. The pastoral idyll is the bountiful heartland, the nation's foodstore (Cloke et al. 2006, 150).

The idea of the rural as a place of national identity and the heartland of America is impactful. This discourse has influenced politics, public opinion, and culture for hundreds of years in America.

One reward of the rural ideal that strengthens its influence is its inherent ambiguity. There is not just one definition of this ideal. David Danbom writes that Americans love the agrarian myth “because of its plasticity;

because we can impart virtually any values we want to on it”(1997, 17). Therefore, it has been used by many different people for a wide array of causes. Timothy Kelsey elaborates on this idea by explaining that:

Agrarianism has played an important role in American political movements, including the Grangers, the Populists, and some parts of the environmental movement. It served as a base for the Populists' critique of urban industrialism”; the antimodernism of the 20th century; the back-to-the-land movements of before World War I, the 1930s, and the late 1960s and 1970s; and the concern about saving the family farm during the 1980s, being altered to fit the needs of its proponents and the changing political economy. Currently, it sustains support for federal farm programs despite high program costs and the relatively small number of farmers in the voting population (Kelsey 1994, 1172).

Michael Dalecki expands this argument by explaining that “the importance of the agrarian phenomenon is significant since it means that agrarian beliefs are not related merely to current farm policy initiatives... but also that policy makers, organizational leaders, and activists alike who choose to utilize agrarian images in support of particular causes tap a broad public base of potential supporters”(1992, 48). In political debates, the myth can be especially formidable because many Americans have insufficient knowledge regarding agriculture. Kelsey adds that “images of the virtuousness of agriculture and of farmers' sacrifice for the good of all obscure the realities of modern agriculture by shifting the debate to a symbolic and emotional level”(1994, 1173). These sources show that the rural ideal holds considerable sway for politics, activism, and general public opinion.

The rural ideal is a pervasive discourse used in popular culture and advertisements. It is used in various genres of advertising including car commercials. Martin Green describes a campaign by Saturn with “a series of ads that tied the Saturn to traditional American values such as family and community. The plant Saturn built in rural Tennessee was the primary focus, and the ads emphasized that this was a car that was at once innovative and new and also as ‘old as the hills’”(1996, 36). Brian Short writes that, “the ‘countryside ideal’ exists in our minds, cooked up for us to dream of in popular culture... manifest in diverse cultural forms and practices, we can therefore find the idyll on television, in novels and poems, in shops, even on our plates” (Cloke, Marsden, and Mooney 2006, 150).

In Jeffery Hopkin’s (1998) journal article, *Signs of the Post-Rural: Marketing Myths of a Symbolic Countryside*, he explores the use of agricultural motifs in logos. He found that four themes dominated these logos: crops, farm animals, farm buildings, and farm machinery. One logo with three farm buildings, a tree, and a bright sun is analyzed in *Signs of the Post-Rural*. Hopkins writes that, “this logo symbolizes myths of a simple ‘home’ down on the ‘family’ farm, where the sun or ‘happiness’ always shines. People here live close to the land in harmonious ‘balance’ with nature; humans in the house, plants in the field and silo, and animals in the barn. This logo condenses and romanticizes ‘farm life’ itself”(1998, 76).

The pastoral ideal is particularly visible in the advertisement of food products. Michael Pollan writes that “[w]e can eat the idyll for dinner, in foods packed with natural goodness, or in the supermarket pastoral of organic

produce”(Cloke, Marsden, and Mooney 2006, 150). Country Crock (Figure 1) uses a barn and sun to advertise their product declaring that it has a “Country Fresh Taste.” Foster Farms (Figure 2) is another example of selling this ideal. It claims to be “Californian Grown and family owned since 1939”. A bright red barn is nestled between lush, green hills. The packaging also declares that it is 100% all natural.

Despite the modernization of the agricultural industry, advertisers have worked to maintain the image of the past. Not advertised are factory farms, the loss of conservation land, or giant machinery. Johnson Lears writes that the images used have allowed, “[experts] of progress to have it both ways: to assert that the best of traditional values survived even as modernization whirled ahead at full tilt... the innovator presented himself as the traditionalist at heart”(Lears 1994, 45). These companies ultimately want to communicate the storybook image that farming hasn’t changed, that farmers are just as family focused and connected with the land as they were in the “good old days.”

It is evident that the rural ideal is strategically used to sell products. Marketing entities capitalize on these types of myth or ideals for a specific reason:

Advertising goes beyond being merely an appropriator of traditional myth, or functioning like myth; it is a mythical system in itself. As the major vehicle for propagating the values of modern society – as the main carrier of ideology... - advertising is a primary means by which modern society defines itself.... Thus, advertising as myth creates a new language of experience that is built on traditional categories and meanings and constructs new language that is “natural” common sense (Lears 1994, 45).

Having established the primary characteristics of the rural ideal and the influence it has in conventional agriculture and product advertisement, I now consider the role of the media, advertising, and the rural ideal in the biofuels industry. Wynne Wright and Taylor Reid (2011, 1390) found that “the media is a key actor in writing this script and in the process, providing compelling social science data” when it comes to the biofuels movement. This study also states that the media “attempt to facilitate a sense of ‘we-ness’ or collective identity, and situate biofuels as a moral imperative, inciting a call to a larger public good”(Wright and Reid 2011, 1397). Although this strategy has been somewhat successful, this framing of biofuels is:

At best tenuous and rest[s] on a vulnerable foundation that can easily be re-framed as illegitimate. Constructing the functions that biofuels can play in such extreme ways assumes that values, desires, and fears are widely shared and agreed upon, rather than situated in social, economic, political, and geographic contexts. These assumptions disguise diversity for coherence and uniformity (Wright and Reid 2011, 1397).

Wright and Reid research describes how biofuels have been constructed as a “moral imperative” and something that “we” can support together. This embodies patriotic and community oriented undercurrents. With the

pastoral ideal, we can have a “shared” past, vision for the future, and “collective identity.” The agrarian myth also relies on a coherent and uniform vision of farm life in America despite the diversity that truly exists in rural life.

Study of the image of ethanol in the state of Iowa “revealed that in Iowa widespread support for ethanol production exists among government, energy and farm groups. Participants from these groups frame ethanol as economically beneficial to rural communities and agriculture while minimizing the likelihood of environmental risks”(Bain and Selfa, 352). The study showed that the popularity of ethanol is rooted in a sense of pride and patriotism that ethanol evokes. Bain and Selfa (2013, 356) reported that the Iowa Corn Growers association use advertisements “to cultivate state patriotism by encouraging Iowans to purchase ethanol as a means to support local farmers and the local economy.” As a whole, people in Iowa who are in favor of ethanol “have successfully framed agriculture and ethanol as central to Iowa’s identity and future, even for residents who may not be involved in these industries” (Bain and Selfa 2013, 357). Ethanol has been defined as a product that fits the rural ideal by relying on images of patriotism and local pride. Ethanol is portrayed as a product that is traditional but also as a foundation for the future. Research shows that there is a history and precedence of drawing on the rural ideal for advertising in the ethanol industry. Here, I investigate what image the Minnesota Corn Growers Association has worked to present regarding corn ethanol in their 2013 print and radio advertisement campaign. Then I will address how this image differs from other corn ethanol narratives.

Methods

My research integrates two primary data sources: 1) an ad campaign analysis and 2) interviews with key informants that were done in person, via email, and by phone. This paper focuses on the advertisement campaign created by the Minnesota Corn Growers Association, because these advertisements are most visible in Minnesota and the Minnesota Corn Growers Association is a significant force in Minnesota’s corn ethanol industry. The analysis of these advertisements and their significance is informed and supported by research and work that others have done on the rural ideal and agrarianism. Academic publications on rhetoric and the communication of ideas through advertisements are also employed to better understand what messages are being conveyed through both images and text.

Semi-structured interviews with farmers, government officials, non-profit employees, and those involved in the academic community were used to develop a broad understanding of the ethanol industry. The objective was to interview people who were specifically involved with or influential in the Minnesota corn ethanol industry. Table 1 shows a list of interviewees and their positions. By targeting a wide range of perspectives in these discussions, the goal was to appreciate many different stories surrounding ethanol. Interviewees were identified through personal contacts, communication with key organizations involved in corn ethanol, and identification of those who contribute significantly to the academic and public ethanol discourse.

Discussion

The Minnesota Corn Growers Association frequently uses advertisements to advance their political positions and beliefs. Their most recent advertisement campaign has been particularly hard-hitting in its attempts to influence public opinion. The advertisements can be seen on highway billboards throughout Minnesota and are aired on many radio stations.

In their advertisement campaign, the Minnesota Corn Growers Association works to communicate a positive message about ethanol. I argue that their message is effectively expressed by linking ethanol and the rural ideal. This discussion will analyze which aspects of the ideal this advertisement campaign accentuates. The three themes highlighted by both the advertisements and the rural ideal include 1) family and multi-generation farms, 2) connection to the land and a natural way of life, and 3) patriotism and local pride. In this discussion it will be important to remember that “promotional images are not... necessarily ‘false’ or ‘wrong’ but fulfill the needs and expectations of a particular audience who, equally, read and engage with these images at a number of complex levels”(Yarwood 2005, 24). After examining the version of reality that Minnesota Corn Growers Association presents, it is critical to consider the environmental implications of corn ethanol that exist beyond the rosy lens of the agrarian ideal.

Family and Multi-Generational Farms

One message these advertisements portray is the importance of family, a strong element in the rural ideal. In over half the radio ads, family is mentioned. One advertisement regarding water quality says, “farmers live on the land and so do our families. Just like you, we want what’s best for the people we love. Protecting the land and water keeps us all healthy. Farmers do that” (*Protecting the Land and Water* 2013). In a radio ad, a man says, “Today I’m following grain markets in China as closely as I’m following my son’s baseball team”(*Corn Farmers Help* 2013). In Figure 3, a young boy is shown playing with his father; a barn in the background. The ad slogan proclaims: “our roots run deep.” The advertisement reminds the viewer that “farming families are good families.” Multi-generational farming operations are also emphasized. The wife of a farmer reports, “I know in our operation we’re using about 35% less fertilizer than my dad did back in ’75” (*Corn Farmers are Good Stewards* 2013). Another speaker announces to those listening that “The fact is, since our family started farming here back in 1944, corn farmers across the country are harvesting nearly four times more corn today on about the same amount of land”(*Ethanol Helps Minnesota’s Economy* 2013). Enforcing the idea that farming is “kept in the family” is a technique used by the media that works to evoke the agrarian myth and to “repeatedly emphasize the significance of deep-rooted family ties to a particular tract of land” (Meister and Japp 2002, 52). A second print advertisement (Figure 4) also illustrates both the multi-generational aspect of farming and the importance of family. In the upper left hand corner it says “Get to know our farm families.” A prototypical mother and father are pictured with their three smiling children. We are invited to “Meet the Nelson Family of Lyle, Minnesota.” The text (Figure 4) reads: “The Nelsons have high hopes that their farm will move into fourth generation family ownership.” Even though

growing corn for ethanol is a recent development in agriculture, the Minnesota Corn Growers Association is trying to convince its audience that farmers with families are the ones growing the corn on their grandfather's land. In essence, these advertisements are saying that despite the modernity of ethanol, corn farmers remain tied to their agrarian and familial roots.

Connection to the Land and a Natural Way of Life

Billboards and radio advertisements also stress that farmers have a connection to the land and that this relationship allows them to farm according to the earth's needs. Therefore, it is inferred that farming is a "natural" way of life. This use of the word *natural* carries several meanings. Natural implies that farming as an occupation is both logical and necessary. Natural also indicates that farming is carried out in a way that is good for the earth. The almost inherent connection between farmers and their land and the concept that farming is a natural way of life are two very intertwined ideas that are communicated throughout the advertisements.

The "Nelson Family" radio commercial enforces the agrarian ideal by mentioning conservation methods. By doing this, it reminds the viewer that farmers are tied to the land and are careful to conserve it. Almost all of the marketing materials utilize this aspect of the ideal. One radio ad reports that, "As farmers, caring for the land is critical, and we know which acres would better serve as wetland than cropland. This helps improve water quality. Farmers do that" (*Corn Farmers Use* 2013). Another tells the listener that "many farmers alternate between corn and soybean crops year to year. This helps restore vital nutrients to the soil so fields can thrive for years to come" (*Alternating Corn and Soybeans* 2013). According to this statement, a large number of farmers are employing conservation techniques. Not only is conservation highlighted in these advertisements, but the strong connection to the land is underscored. In a sentimental voice, a woman says, "you know, I couldn't imagine doing anything else, and I think I know why. It's my love for the land. To me, it's simple, if you're going to make a living farming, you're going to do everything possible to take care of your land" (*Corn Farmers are Good Stewards* 2013). All of these advertisements aim to remind us that farmers are intimately tied to the land and will only do what is best for it. This encourages viewers to put trust in the farmer. This trust is also indicative of the importance society equates with land ownership. Michael Bunce writes, "the values that sustain the rural idyll speak of a profound and universal human need for connection with land, nature and community"(Bunce 1994, 15). By emphasizing this tie, the Minnesota Corn Growers Association capitalizes on the desire for this connection. Ever since Europeans immigrated to America, there has been a strong value placed on owning land. Many Americans now live in cities or the suburbs, but their admiration for those who own or have a connection to a piece of land remains.

The relationship with the land discussed in these advertisements is strongly associated with the rural ideal and its suggestion that farming is natural. The rural ideal often seems to assume that farming is the best use of land. John R. Logan (Logan 1996) writes that rural is often associated with "the image of the self-sufficient farm, where everything is recycled and no scrap can afford to be wasted; the clean air and water; the open spaces; the big sky."

Therefore, the advertisements frequently emphasize the words “clean” and “renewable.” The text of one radio ad reads:

We like things clean, from our politics to this amazing environment of ours. Speaking of which, there is a simple way we can all help keep our air cleaner, we’re talking about ethanol – produced right here at home. It’s a cleaner burning fuel. And by adding it to our gasoline it helps us reduce harmful tailpipe emissions, and that is something that helps us all breathe easier. Keep it clean Minnesota (*Ethanol is Home Grown* 2013).

This radio advertisement mentions both the environment and ways in which ethanol is a “clean” product. In addition, a print ad (Figure 5) states in large letters that “Ethanol Is Renewable.” Newly sprouted corn plants in dark black soil are shown in the background. Although words like renewable and clean are not typically included in traditional rural ideal vocabulary, both still relate back to the idea that agriculture is a natural, good use of the land. A final radio statement cements this theme by stating that: “last year, Minnesota farmers had more than 1.8 million acres enrolled in conservation programs to protect and preserve natural resources... For us, being good stewards of the land is more than just a smart way to protect our business; it’s the right thing to protect our land for all Minnesotans”(*Corn Farmers are Good Stewards* 2013). According to this ad, being a good steward of the land and using sustainable practices is a part of farming. This radio advertisement’s focus on Minnesota introduces another facet of the rural ideal, patriotism and local pride.

Patriotism and Local Pride

The Corn Growers Association capitalizes on the sense of patriotism and local pride that is ingrained in the agrarian myth. One radio ad says, “We love it here in Minnesota. We’ve got great people, great natural beauty, and great ideas like ethanol - the clean burning fuel that comes from corn - corn grown right here in Minnesota, which means our local communities and economies benefit from this renewable, homegrown resource. Let’s keep it local Minnesota” (*Ethanol is Local* 2013). This is a strategic statement that is designed to remind those listening that ethanol is a local product for our local economy. Another radio advertisement reports that “the work that Minnesota corn farmers do really adds up for all of us. The fact is, 30 years ago we were spending more than 13% of our disposable income on food, and in 2006 it was under 10%. So with all the talk about rising food prices, there is a group of Minnesotans helping to keep food costs down. I’m proud to say I’m related to some of them”(*Corn Farmers Help* 2013). Pride in Minnesota and its self-sufficient farmers are the key messages in this statement. This ad also highlights the common sentiment that farmers are indispensable parts of the foundation of our society. *A Repertoire of Interpretations* states that, “agrarianism claims that, when organized around independent ownership, the sphere of agricultural production is the source and preserve of equality, freedom, democracy, and strong family” (Mooney and Hunt 1996, 183). Paul H. Johnstone’s dimensions of agrarianism also support this concept:

First, the economic independence of the farmer facilitates social and political independence. Second, agricultural life is the “natural life.” Both the “natural life” and independence are considered to be good in that they supposedly constitute the foundation of morality and democratic equality, respectively. The third dimension of agrarianism is agrarian fundamentalism, the idea that all other economic activities depend upon agriculture. (Maybe Mooney and Hunt, 183)

The essence of this quote is embedded in the radio advertisement that states, “It’s only a matter of time before our supply of petroleum runs out. Plus, we have this looming crisis of dependence on foreign oil. Good news is we produce ethanol from corn, grown right here at home, and unlike oil, we can keep on producing ethanol year after year”(Ethanol is Renewable 2013). Farmers are seen as independently growing a resource that can sustain our economy and make us less reliant on other countries, thereby making our democracy stronger. This theory has been stressed heavily in the biofuels debate. Throughout their advertisements, the Minnesota Corn Growers Association aims to remind the consumer as often as possible that corn farmers are supporting local economies, democracy, and the entire United States of America through the production of food, fuel, money, and valuable citizens.

Other Realities

While the advertisements represent and reproduce one reality, there are significant issues that are not being represented by the Minnesota Corn Growers Association. The idyllic agrarian discourse that the advertisements employ does not represent a complete picture of the corn ethanol industry. In a study on environmental rhetoric, Mark Meister and Phyllis Japp write that:

Equally important in a critical perspective is to notice what is not included in the ongoing streams of words and images, the stories not told, the images not displayed. As Burke (1984b) insists, every supposed reflection of some facet of experience is in reality a selection, or a choice from among options selected to represent the idea or issue under focus. Such selections are inevitably deflections; they hide and obscure what lies outside the selection. Over time, one forgets (if indeed one ever realized) that the selection does not reflect the whole, only a chosen aspect or part of that whole (2002, 7).

However, it is also critical to remember that, “it would also be naïve to consider that the rural myth shows a ‘false’ image of the countryside and that the public are always ‘duped’ by such images... Rather, we should not be asking whether a myth is true but, rather, ‘whose truth is it?’”(Yarwood 2005, 24).

For whom is the agrarian ideal the truth, and where does the agrarian ideal fall short of reality? There is no doubt that the development of ethanol has been good for many corn farmers. As farmer Gary Borgschatz stated in an interview on October 20th, 2013, “ethanol is the best thing that ever happened to rural America.” Echoing this statement, John Farrell writes that, “corn ethanol is a great *economic* engine when farmers collectively own (via

cooperatives) the ethanol plant because it gives them a place to sell their crop and a value added product.” While ethanol may be beneficial in many ways to current farmers, this version of reality is often not the case from other perspectives. In particular, there have been significant and unforeseen consequences for the environment. By capitalizing on the romanticization of the rural ideal, the Minnesota Corn Growers Association is glossing over negative aspects of the ethanol industry. If the true environmental impact of ethanol was realized, there might be billboards and radio ads discouraging ethanol production instead of encourage it. If advertisements focused on this perspective, the image presented would highlight both that ethanol has resulted in intensification or a focus on corn production and that ethanol has resulted in extensification or an increase in the amount of land used for farming. The issues of intensification and extensification are two major themes in the environment’s ethanol story.

The Environmental Perspective

Consider the two types of land use change that have been caused by an increase in corn ethanol production:

[The first] on currently cropped land, because cropland could be farmed more intensively to produce more feedstocks for biofuel production – specifically, in the case of the U.S., corn; and [the second] on land currently out of agricultural production [often in the form of Conservation Reserve Program land]. We refer to the first type of change as a change on the intensive margin, because increases in corn production in this case would not increase the land allocated to crop production... and to the second as the extensive margin, because CRP land is set aside and using it for crop production again would increase the area used for agricultural production (Secchi et al. 2011, 2392).

The next two sections of this paper will discuss these two kinds of land use change. Ethanol has led to a focus on corn production and an increase in land being farmed, which often results in a decrease in Conservation Reserve Program (CRP) land.

An Unsustainable Focus on Corn Production

Many messages communicated by the Minnesota Corn Growers Association emphasize the importance of crop rotation and conservation. However, in reality, not all Minnesota farmers’ are committed to sustainable practices. Data from the United States Department of Agriculture (Figures 6, 7 & 8) shows that there has been a recent increase in the planting and harvesting of corn. The increase in ethanol production is one of the reasons for this effort to yield more corn. Research done in Iowa showed that “Ethanol is an undeniably powerful factor... it’s hard to argue that devoting 40% of the US corn crop to ethanol and over 60% of Iowa’s corn to ethanol is not having profound effects on the corn market and corn prices and incentives for farmers to dramatically intensify their production”(Bain and Selfa 2013, 358). This statement largely applies to Minnesota as well.

Corn and soybeans are the two dominant crops grown in the United States and Minnesota. Figures 6 and 7 show that the percentage of land in Minnesota devoted to corn has increased from 13% to 16% between 2006 and

2012. Since 1998 (Figure 8), the number of acres of soybeans planted has remained rather constant in the United States. However, the acres of corn in production (Figure 8) have increased from around eighty million acres in 1998 to approximately ninety-eight million acres in 2013. According to a study by Emery Ellingson:

It appears that corn has started to expand into new regions of Minnesota while continuing to intensify in its core regions. With this change comes the potential for consequences. Although Minnesota already produces large amounts of corn, there is still crop diversity, especially in the northwest. In other regions of Minnesota where corn is dominant, crop rotation, typically with soybeans, is often practiced. However, if corn prices continue to rise, it is likely that more farmers will plant more corn. The potential of a future corn monoculture in a swath from the northwest through the southern regions of the state does not seem so farfetched (2012, 10).

The intense focus on corn is not renewable. Relying on monocrop agriculture is never a good idea, but planting a corn monocrop is especially short-sighted. Corn is an annual row crop which requires large amounts of fertilizers and water. Since it must be replanted every year, the land is barren during the winter and is usually tilled during the spring which leads to increased erosion.

However, this focus on corn was not necessarily the original intent of those in the biofuels industry. When biofuels first emerged, Jim Kleinschmit wrote about the potential for extreme success and failure in the Minnesota biofuels industry. He was optimistic about biofuels, but, he warned that “if the focus is only on production and yield, the environmental benefits could actually become threats, as excessive biomass collection could increase erosion, reduce diversity and wildlife habitat, denigrate soil quality and even increase monocultural production.” His concerns were legitimate, and many are problems faced by the corn ethanol industry today. In an email, Tom Nickerson of the University of Minnesota said that, ethanol production in Minnesota “equates to almost 40 million acres of land being put into ethanol feedstock production. These acres require large amounts of land management and intense agronomic practices. Many tons of fertilizers have been applied, many gallons of diesel fuel have been consumed, and an increasing amount of grassland has been converted into agricultural land”¹ There are ways to reduce the negative impacts corn can have; however, due to the higher price of corn and changes in agriculture, these measures are being taken less frequently.

Mark Rasmussen, who is the Director of the Leopold Center at Iowa State University, explained in a phone interview on October 16, 2013 that there is lot of farmland that is leased. It often becomes a version of the tragedy of the commons. If the farm owner doesn't care about the soil and maintain the resource, then the leaser won't preserve it. Another factor is that the leaser often is only leasing the land for several years. Therefore, it is to their benefit to use the land for all it's worth – which means planting as much corn as possible every year. If the leaser will only be on that land for a bit, the future quality of the land is not a concern to them. Therefore, the leasers rarely put effort into conservation. Unlike past times, the land is not in a family for generation after generation.

There is no longer an incentive to take care of the earth in many cases. Intensification is becoming more and more common, but extensification is also occurring at shocking rates.

Increase in Land Being Farmed

One of the most concerning trends is the increase in land being farmed. Recall the radio advertisement that boasted about the “1.8 million acres” Minnesota farmers have enrolled in conservation programs. The ad used this statistic to reinforce that Minnesota farmers are “good stewards of the land” (*Corn Farmers are Good Stewards* 2013). On the surface, this messaging strategy paints farmers as dedicated protectors of the land. However, beyond the seemingly impressive statistic, there has actually been a decrease in land enrolled in the Conservation Reserve Program. The Conservation Reserve Program (CRP) is a U.S. Federal Government program that was enacted in 1986 and pays farmers for setting aside land that is highly susceptible to erosion. Farmers sign contracts for ten to fifteen years, and there are penalties for taking the land out of the program. Despite these penalties, acres are pulled out of the program each year. “This land was enrolled in the program because of factors such as high erodibility and impact on water quality and wildlife. Thus, returning it to agricultural production has disproportionately high per hectare effects on soil erosion and nutrient losses”(Secchi et al. 2011, 2392). Loss in CRP land has a disparate environmental impact (Bain and Selfa 2013).

Several of my interviews were particularly revealing. Mark Rasmussen, director of the Leopold Center, said:

People are pulling their CRP land out of the program and putting it into production. In the steeper parts of Iowa, where land that has been in pasture grass for 50 years or longer, that land is now being ploughed and put into production. I know of one instance where a section of land was so steep that a farmer reshaped the farmland in order to make it farmable. It was very costly to reshape the farmland, but putting it into production was that important.

A pig and corn farmer, Ron Marquardt, said in an email that some “farmers, including neighbors, have gone to raising all corn each year, rather than rotating their crops, to capture the increased corn price. We have not done so, as we believe that crop production needs to be rotated to preserve the land.” These two interviews provide indications that changes in land use are happening at a high rate. Since the land being put into production is often more marginal, soil erosion is a significant concern. Mark Rasmussen was particularly worried about the soil, explaining that “soil is a one way street. It takes a long time to regenerate top-soil. When we have an abundance of something we think it is going to be around forever, we take advantage of it.” Rasmussen went so far as to say that, “[w]e are losing more soil than we are saving in cash when paying for petroleum.”

Not only is soil being negatively impacted, but water quality is another major concern. To achieve high yields of corn, fertilizers and pesticides must be used. When extensification occurs, farmers often put land that used

to be a buffer between lakes or rivers into production. When no buffer zone exists, these fertilizers and pesticides are more likely to quickly enter the lake and streams. The effects of this have been seen in an area of hypoxia in the Gulf of Mexico. Hypoxia refers to levels of dissolved oxygen in water that are dangerous or deadly for aquatic species. This occurs in the Gulf of Mexico because the Mississippi River expels large amounts of water that are abundant with fertilizer runoff during the spring and summer (Coffin et al. 2010). This hypoxia causes “these inputs result in nutrient over enrichment in the northern gulf, which contributes to high levels of algal biomass production. When these algae die, the process of decomposition depletes dissolved oxygen from the water column and leads to these hypoxic conditions” (*Nutrient Control Action* 2009, 1). The hypoxic zone in the Gulf of Mexico, although highly variable, has been increasing in size ever since it was discovered. As the hypoxic zone grows larger, it harms more and more aquatic species. Although the hypoxia in the Gulf of Mexico is certainly not solely a result of ethanol, the extensification caused by ethanol production contributes to this problem. These issues are frequently misunderstood especially as groups like the Minnesota Corn Growers Association use marketing to convince the public that ethanol is simply a natural, home-grown element of the rural ideal. And while this may be partially true, it masks concerning environmental problems.

Conclusion

Paul Cloke writes that “We are brainwashed from birth by idyllic representational values which present a cumulative foundation for both reflexive and instinctive reactions to rurality. Almost without realizing, it seems, we learn to live out [this] knowledge in perception, attitude, and practice” (Cloke, Marsden, and Mooney, 1). By embodying family, connection with the land, and patriotism and local pride the Minnesota Corn Growers Association’s advertisements feed off the idyllic views on agriculture that are so cemented in American culture. While the advertisements represent and reproduce one perspective, the agrarian discourse that the advertisements employ does not represent a complete picture of the ethanol industry. When one discourse becomes dominant:

It is difficult or impossible for people to “think outside the box” of the consistent themes, assumptions, ideas, and images that comprise the discourse surrounding a given topic. Those who do become aware of what is deflected, of elements missing from the equations, narratives, and metaphors, must not only challenge what is presented but also create new equations and narratives, broaden and refocus extant assumptions (Meister and Japp 2002, 7).

It is clear that there are many elements missing from the public narrative surrounding ethanol, and it is important to challenge how the agrarian ideal is being used by actors like the Minnesota Corn Growers Association to promote corn ethanol. Many troubling realities of corn ethanol have become apparent, and land use change and its associated consequences are particularly concerning. More intensive and extensive corn production threatens the environment by impacting water quality, erosion rates, wildlife viability, and soil health.

A more realistic, well-rounded ethanol story is needed. Ethanol has been life-altering for many farmers who need value added to their crop. However, ethanol production has led to problematic land-use change. Farmers, the environment, agriculture, industry, the economy, and conservation are all important parts of America's past and future. However, we must make sure that our soil and environment can support agriculture while our economy and industry appropriately support farmers. There is more to ethanol than the big red barn, bountiful crops, and cheerful farming families. It is crucial that more sides to this issue are recognized so that the public does not continue to be lulled into ignorance by the rocking armchair of the agrarian ideal.

Appendix:

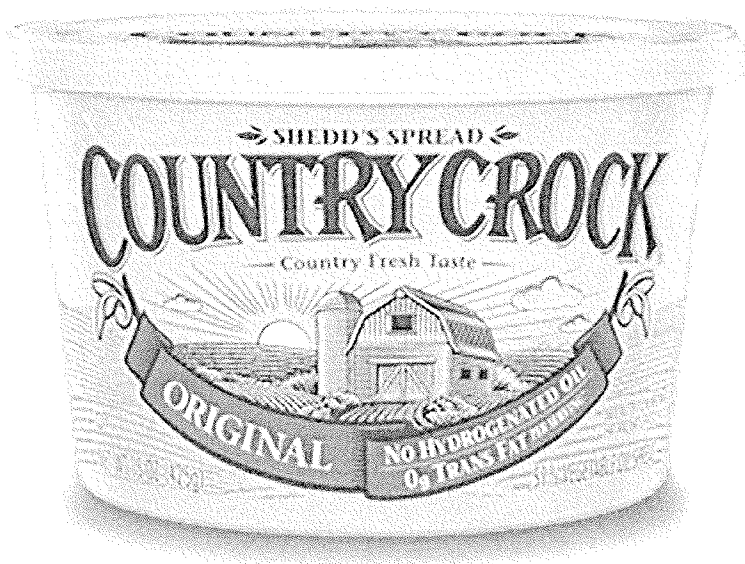


Figure 1: This figure shows a typical Country Crock Spread container



Figure 2: This is the packaging for a Foster Farm chicken product.

Name	Position
Adam Birr	Research Director at the Minnesota Corn Growers Association
John Farrel	Director of the Energy Self-Reliant States and Communities program at ILSR
Randall Doyal	CEO of the Al-Corn Ethanol Plant
Gary Borgschatz	Farmer and on the Board of Directors at the Al-Corn Ethanol Plant
Mark Rasmussen	Director of the Leopold Center at Iowa State
Jim Kleinschmitt	Director of the Institute for Agriculture and Trade Policy's Rural Communities program
Jeanne Pope	Chair of the House Agriculture Policy Committee at the Minnesota House of Representatives
Tom Nickerson	Ph.D. Candidate

Table 1: Interviews



Figure 3: A Minnesota Corn Growers Association's Advertisement.



Figure 5: A billboard advertisement used throughout Minnesota.

Minnesota 2006 Top 10 Uses

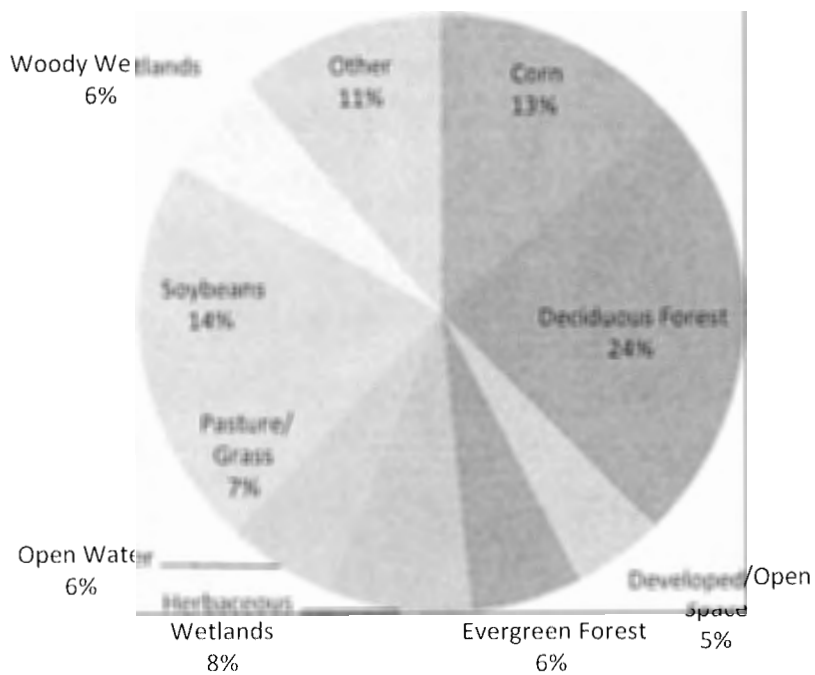


Figure 6: Pie chart showing the top 10 land uses in Minnesota for 2006. Data from <http://nassgeodata.gmu.edu/CropScape/>

2012 Top 10 Land Uses

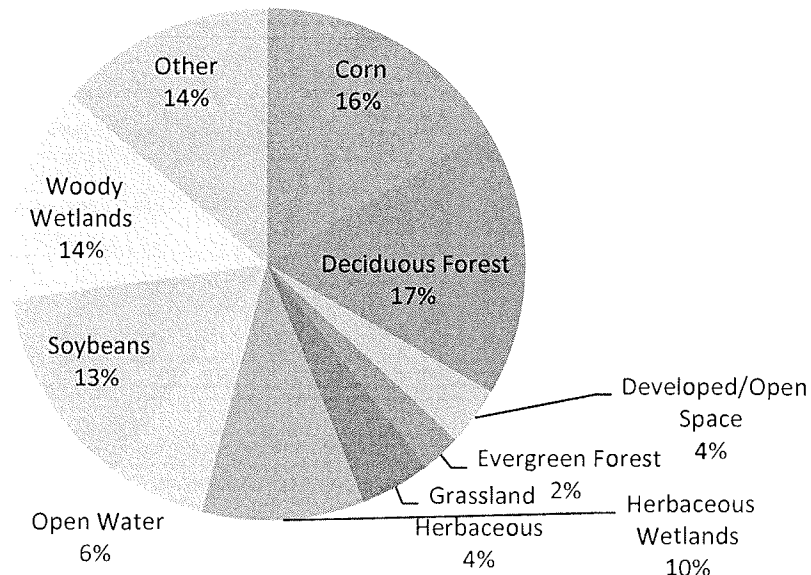


Figure 7: Pie chart showing the top 10 land uses in Minnesota for 2010. Data from <http://nassgeodata.gmu.edu/CropScape/>

Acres Planted of Corn and Soybeans in the USA from 1998-2013

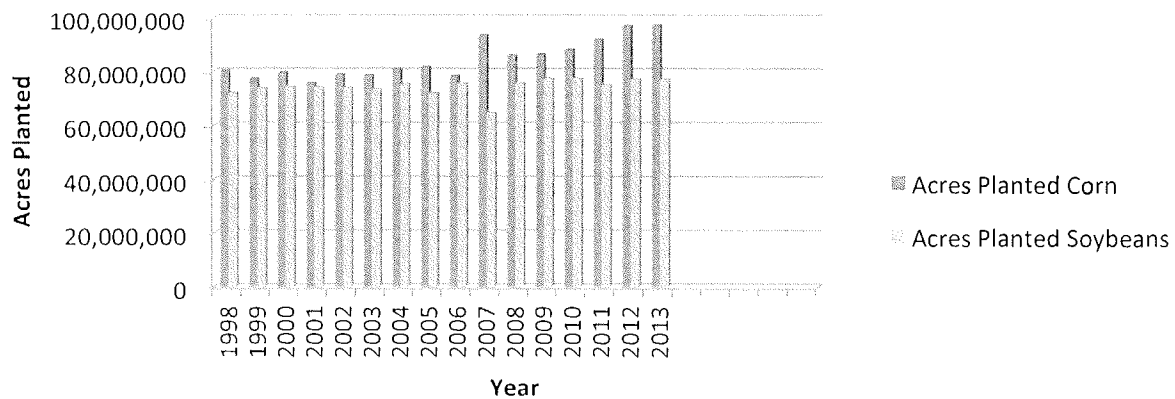


Figure 8: Bar graph comparing acres of corn and soybeans planted between 1998 and 2013. Data from <http://quickstats.nass.usda.gov/>

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