



Corn Belt farmers' attitudes toward actions to reduce greenhouse gas emissions

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Climate change presents a number of threats to the Corn Belt's predominant corn-soybean agricultural system. A key objective of the Sustainable Corn project is to conduct social science research to assess farmers' understanding of climate change and attitudes toward adaptation and mitigation practices and strategies. Toward that end, a survey of Corn Belt farmers was conducted in February and March 2012. This report summarizes a portion of that survey. More comprehensive results are available at: sustainablecorn.org/What_Farmers_are_Saying/Farmer_Survey.

Attitudes are subjective evaluations of a specific object, idea or policy. The survey collected data on farmers' attitudes toward a number of potential adaptive and mitigative actions. Adaptive actions are adjustments that farmers make as they anticipate or react to changing conditions that may place the farm enterprise at risk. Adaptive actions can be technological, economic, social, managerial, and/or institutional adjustments and are often motivated by intentions to reduce risk and vulnerability of the farm enterprise. Mitigative actions are those that reduce

The Project

The Sustainable Corn Project is a USDA-funded transdisciplinary partnership among 11 institutions creating new science and educational opportunities. The project seeks to increase resilience and adaptability of Midwestern agriculture by identifying farmer practices and policies that increase sustainability while meeting crop demand.

sustainablecorn.org

The Survey

The farmer survey was carried out in partnership with the Useful to Useable (U2U) project, another USDA-funded climate and agriculture project. The 2012 survey was completed by 4,778 corn farmers with at least US\$100,000 of gross sales and a minimum of 80 acres of corn production.

Where

The sample was stratified by 22 six-digit Hydrologic Code Unit (HUC) watersheds that cover a substantial portion of 11 Corn Belt states—Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin. The 22 watersheds contain over half of U.S. corn and soybean acres.

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Source: Loy, Adam, Jon Hobbs, J. Gordon Arbuckle Jr., Lois Wright Morton, Linda Stalker Prokopy, Tonya Haigh, Tricia Knoot, Cody Knutson, Amber Saylor Mase, Jean McGuire, John Tyndall, and Melissa Widhalm. 2013. Farmer Perspectives on Agriculture and Weather Variability in the Corn Belt: A Statistical Atlas. CSCAP 0153-2013. Ames, IA: Cropping Systems Coordinated Agricultural Project (CAP): Climate Change, Mitigation, and Adaptation in Corn-based Cropping Systems. Available at sustainablecorn.org.

greenhouse gas emissions or sequester carbon. This report summarizes farmer responses to two questions about greenhouse gas reduction.

Survey Results

The survey measured farmers' attitudes toward greenhouse gas reduction. The two survey items were: (1) Government should do more to reduce greenhouse gas emissions and other potential sources of climate change and (2) I should reduce greenhouse gas emissions from my farm operation. The items were preceded by the text, "Organizations, agencies, and individuals can do a number of things to prepare for or address potential changes in climate. Please provide your opinions on the following statements." Farmers rated the items on a five-point agreement scale from strongly disagree to strongly agree.

On average across all watersheds, 23% of respondents agreed that Government should do more to reduce greenhouse gas emissions and other potential sources of climate change (table 1). Agreement with this statement was lowest in the Loup, Elkhorn, Big Blue and Patoka-White watersheds, where 18% of respondents agreed that Government should reduce greenhouse gas emissions to address potential changes in climate, and highest in Rock watershed (30%) (figure 1).

Across all watersheds, 23% of farmers agreed that they should reduce greenhouse gas emissions from their farm operation (table 1). Respondents in Middle Platte watershed had the lowest level of agreement (17%) and respondents in Lower Illinois watershed (28%) had the highest level of agreement with the statement (figure 2).

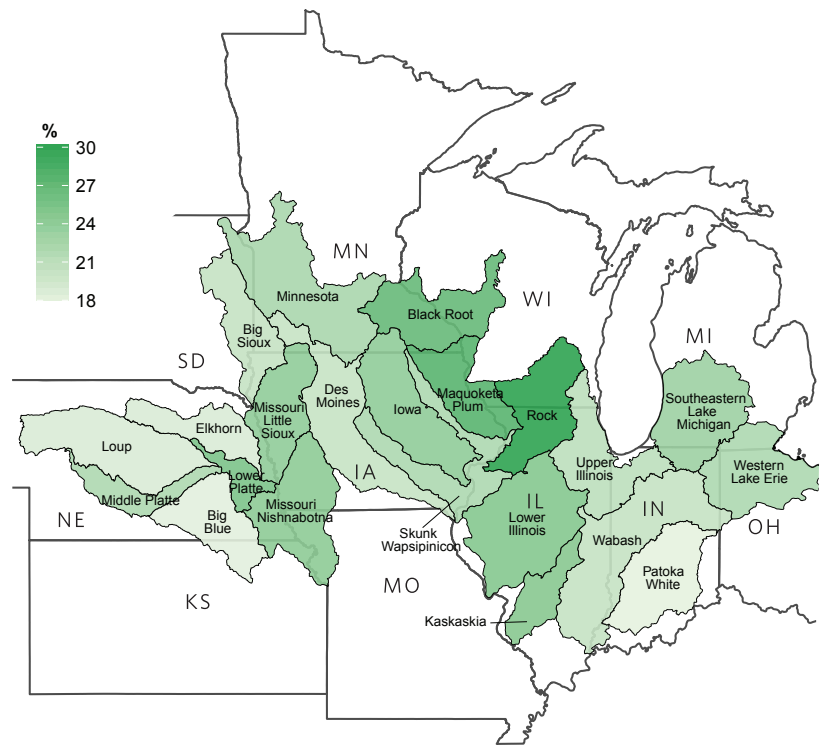


FIGURE 1 | Government should do more to reduce greenhouse gas emissions and other potential sources of climate change, percent agree or strongly agree.

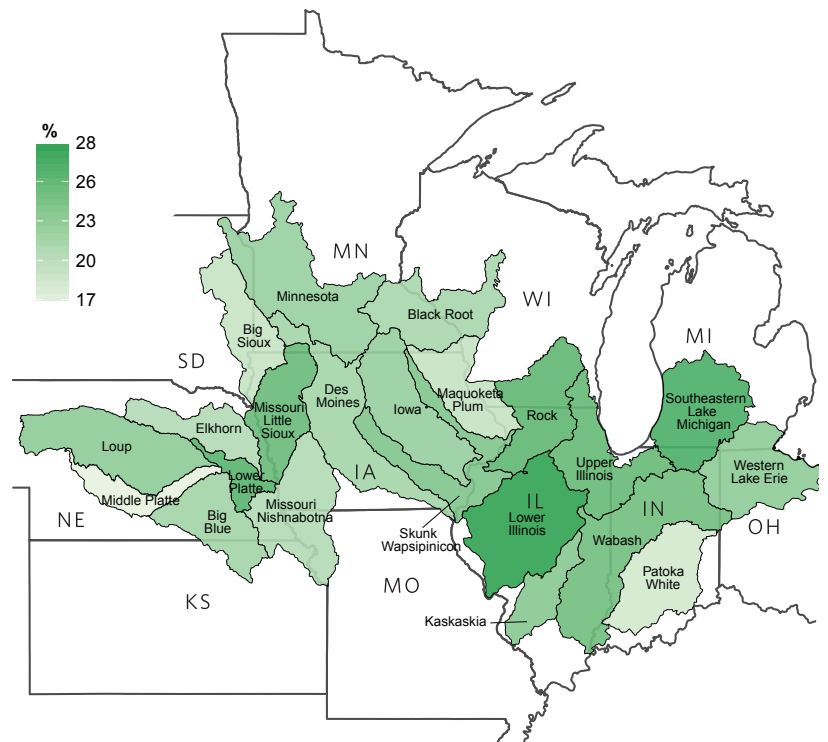


FIGURE 2 | I should reduce greenhouse gas emissions from my farm operation, percent agree or strongly agree.



TABLE 1 | Attitudes¹ toward actions to reduce greenhouse gas emissions, percent of farmers who agree or strongly agree, by watershed.

Watershed (HUC6)	Government should do more to reduce greenhouse gas emissions and other potential sources of climate change	I should reduce greenhouse gas emissions from my farm operation
All Watersheds	23	23
Loup	18	23
Middle Platte	22	17
Elkhorn	18	20
Big Blue	18	22
Lower Platte	25	26
Big Sioux	20	19
Missouri-Little Sioux	24	25
Missouri-Nishnabotna	24	20
Minnesota	22	22
Des Moines	20	21
Iowa	24	22
Black Root	27	21
Skunk Wapsipinicon	22	24
Maquoketa Plum	27	19
Lower Illinois	25	28
Rock	30	26
Kaskaskia	25	23
Upper Illinois	21	25
Wabash	20	25
Patoka-White	18	18
Southeastern Lake Michigan	23	27
Western Lake Erie	22	23

¹Attitudes were measured on a 5-point agreement scale: strongly disagree, disagree, uncertain, agree, strongly agree.

Please cite this publication as: Gardezi, Maaz and J. Gordon Arbuckle Jr. 2015. Corn Belt farmers' attitudes toward actions to reduce greenhouse gas emissions. CSCAP-0164-2015. Ames, IA: Cropping Systems Coordinated Agricultural Project (CAP): Climate Change, Mitigation, and Adaptation in Corn-based Cropping Systems.

This publication is based on a survey of Midwestern corn producers implemented through a collaboration of two USDA-NIFA supported projects, Cropping Systems Coordinated Agricultural Project (CAP): Climate Change, Mitigation, and Adaptation in Corn-based Cropping Systems (Award No. 2011-68002-30190) and Useful to Usable (U2U): Transforming Climate Variability and Change Information for Cereal Crop Producers (Award No. 2011-68002-30220). Additional funding was provided by the Iowa Agriculture and Home Economics Experiment Station, Purdue University College of Agriculture, and the Iowa Natural Resources Conservation Service.

The Sustainable Corn project (officially referred to as the Climate and Corn-based Cropping Systems Coordinated Agricultural Project) is a transdisciplinary partnership among 11 institutions: Iowa State University; Lincoln University; Michigan State University; The Ohio State University; Purdue University; South Dakota State University; University of Illinois; University of Minnesota; University of Missouri; University of Wisconsin; USDA Agricultural Research Service - Columbus, Ohio; and USDA National Institute of Food and Agriculture (USDA-NIFA). Project website: sustainablecorn.org.



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