



Iowa Nutrient Reduction Strategy

Farmer Perspectives on the Iowa Nutrient Reduction Strategy: Results from the Iowa Farm and Rural Life Poll

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The Iowa strategy outlines a pragmatic approach for reducing nutrient loads discharged from the state's largest wastewater treatment plants, in combination with targeted practices designed to reduce loads from nonpoint sources such as farm fields. This is the first time such an integrated approach involving both point sources and nonpoint sources

The Iowa Nutrient Reduction Strategy was developed by:





Today's presentation

- Purpose: Provide information that helps SWCDs to know their farmer partners better, inform engagement strategies
- Data from the Iowa Farm and Rural Life Poll: 2014 and 2010
- ~1,200 farmers from across Iowa

Awareness, Attitudes, and Nutrients

- Research on behavior change points to awareness and attitudes as major influences on action
- Attitudes are positive or negative evaluations of specific “objects”: actions, policies, pies
- If people do not know about a situation or potential action (**awareness**) and/or do not consider it to be something that requires action (**attitude**), they are not likely to act

Awareness, Attitudes and Nutrients

- Nutrient Reduction Strategy (NRS)
 - Are farmers **aware** of the NRS, reasons for it?
 - What are their **attitudes** toward NRS and goals?
 - Who do farmers trust for information on nutrient management?
- Cover crops: Key practice for NRS
 - Have farmer **attitudes** about cover crops changed recently?

Series of Questions on Nutrient Reduction Strategy

“The Iowa Nutrient Reduction Strategy is a science and technology-based framework to assess and reduce nutrients to Iowa waters and the Gulf of Mexico. It is designed to direct efforts to reduce nutrients in surface water from both point and nonpoint sources in a scientific, reasonable, and cost-effective manner.”

“The Nutrient Reduction Strategy was prompted by the 2008 Gulf Hypoxia Action Plan that calls for Iowa and other states along the Mississippi River to develop strategies to reduce nutrient loadings to the Gulf of Mexico. The Gulf Hypoxia Action Plan establishes a goal of at least a 45% reduction in the amount of nitrogen and phosphorus that flows into Iowa’s waterways (streams, rivers). The Iowa strategy addresses both “point sources” (e.g., water treatment plants) and “nonpoint sources” (e.g., agriculture) of nutrients. The goal for Iowa agriculture is that nutrient losses into waterways will be reduced by 41% for nitrogen and 29% for phosphorus.”

Series of Questions on Nutrient Reduction Strategy

Before reading the description above, how knowledgeable were you about the Iowa Nutrient Reduction Strategy?

<u>Not at all knowledgeable</u>	<u>Slightly knowledgeable</u>	<u>Somewhat knowledgeable</u>	<u>Knowledgeable</u>	<u>Very knowledgeable</u>
20%	27%	32%	18%	4%

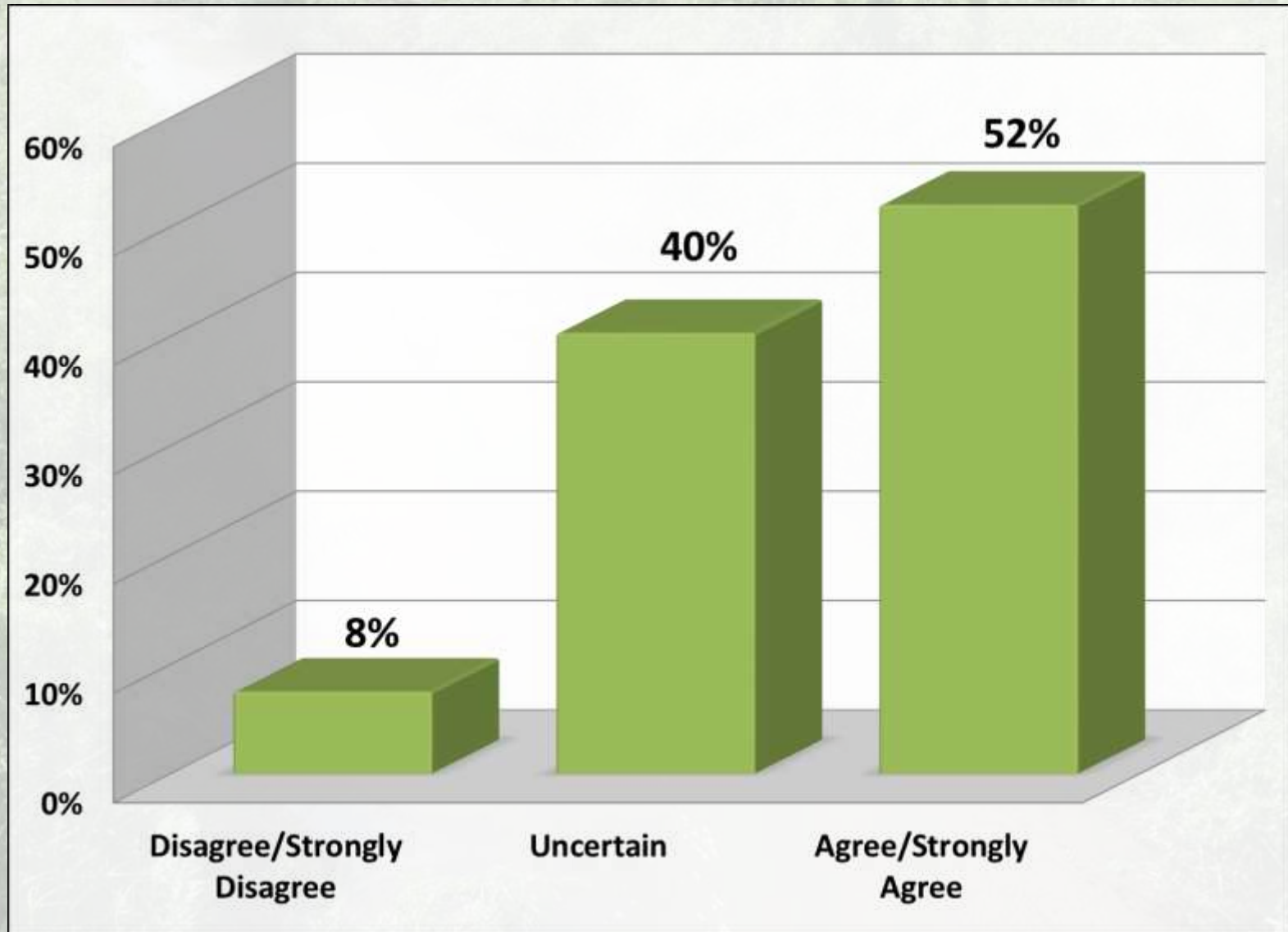
Information about the Nutrient Reduction Strategy has been publicized through many sources. Through what sources have you learned about it?

Source	Percent
I had not heard about it until now	18
The farm press (magazines, TV programs, websites)	63
Iowa State University Extension and Outreach	45
Natural Resources Conservation Service or Soil and Water Conservation District	41
Government agency (e.g., Iowa Department of Agriculture and Land Stewardship)	39
Commodity or farm organization (e.g., Soybean Assn, Corn Growers, Farm Bureau)	35
The popular press (general interest newspapers, magazines)	30
Local agricultural retailer (e.g., fertilizer, agricultural chemical dealer)	14
Seed company salesperson	9
Independent/private crop adviser or agronomist	8

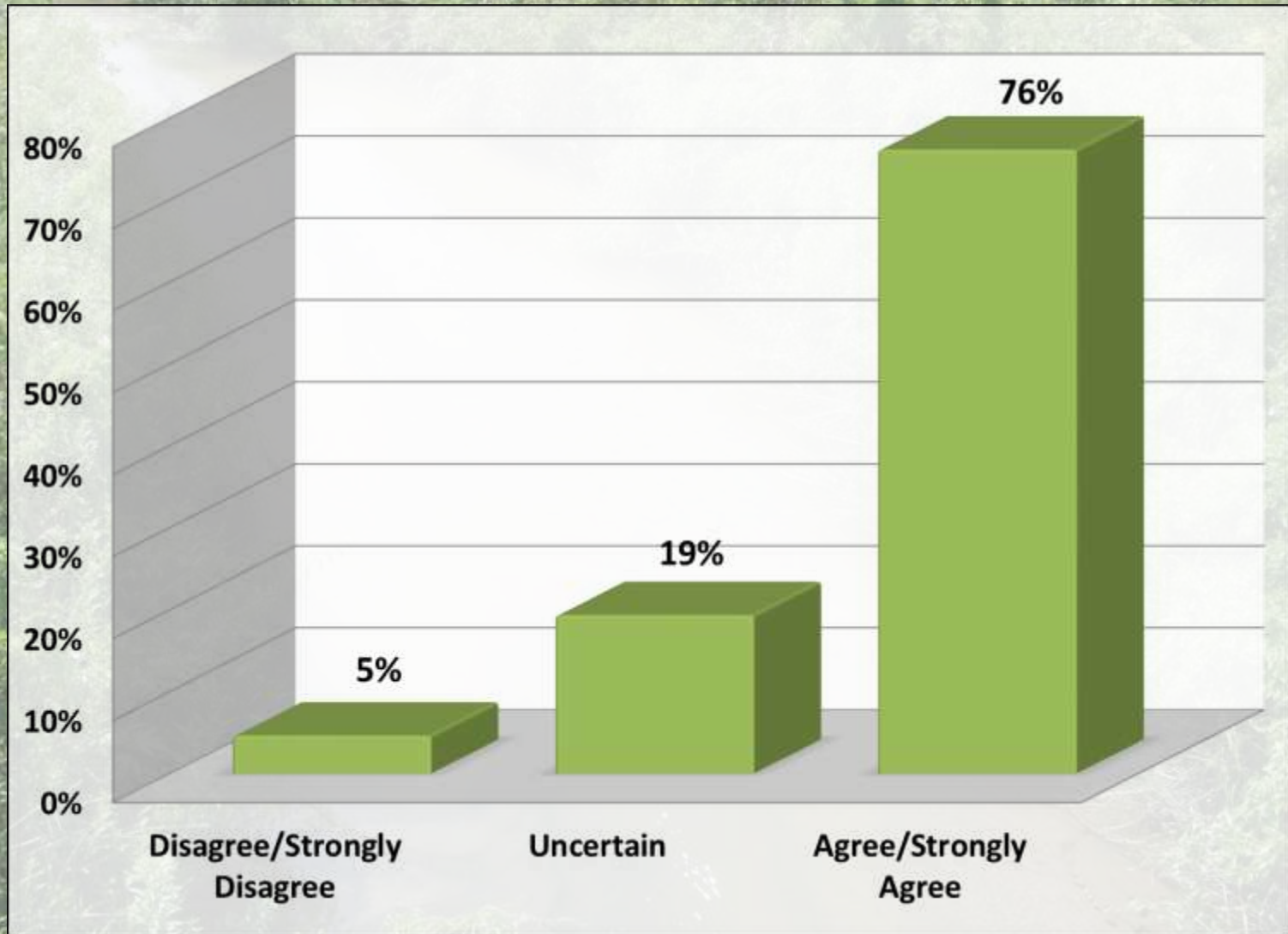
Perspectives on NRS and goals

- “Please provide your opinion on the following statements related to the Iowa Nutrient Reduction Strategy”
- Five-point scale: Strongly disagree to strongly agree
- Awareness of and concern about water quality problems
- Support for action
- Perceived barriers to action

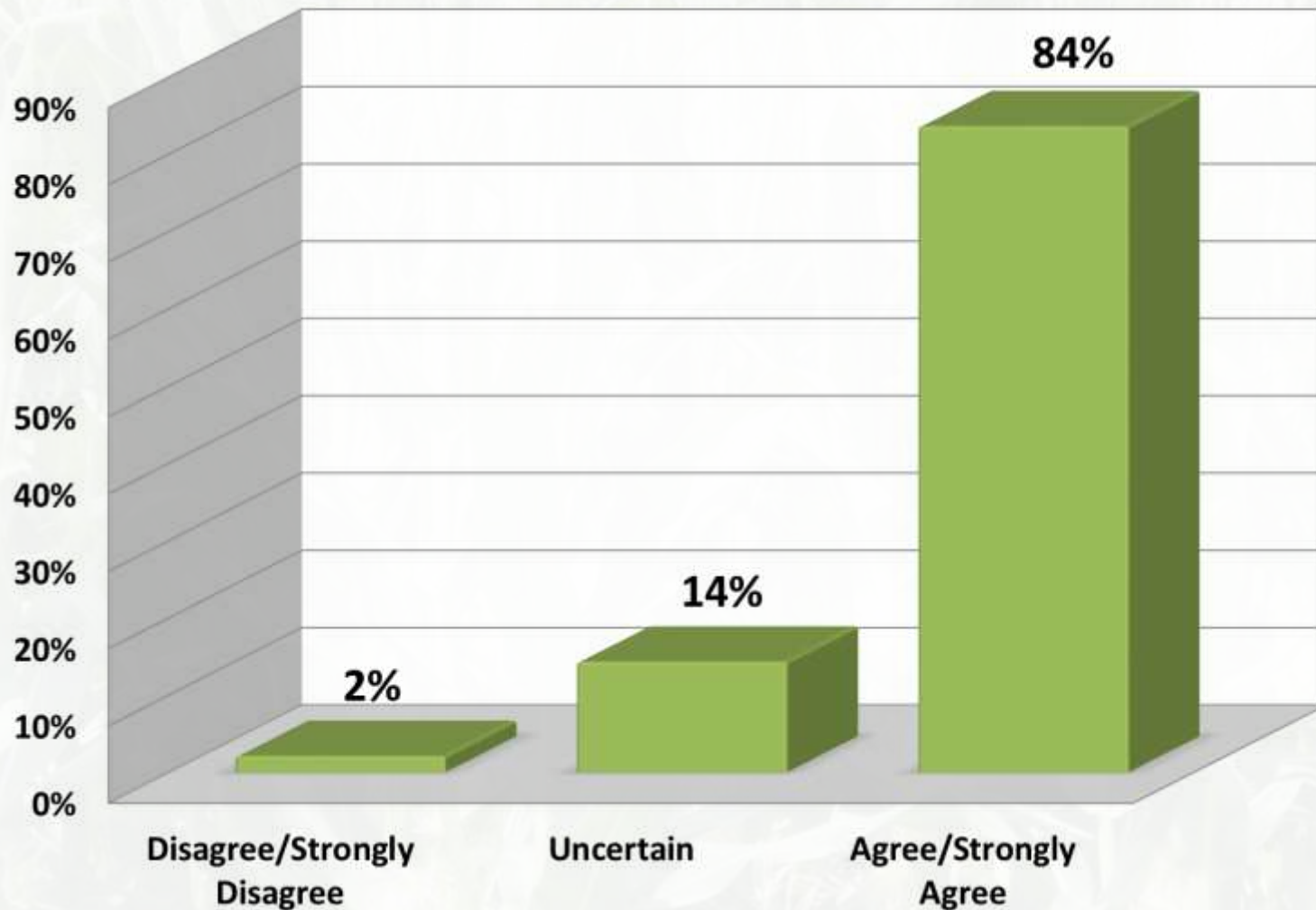
Nutrients from Iowa farms contribute to hypoxia in the Gulf of Mexico



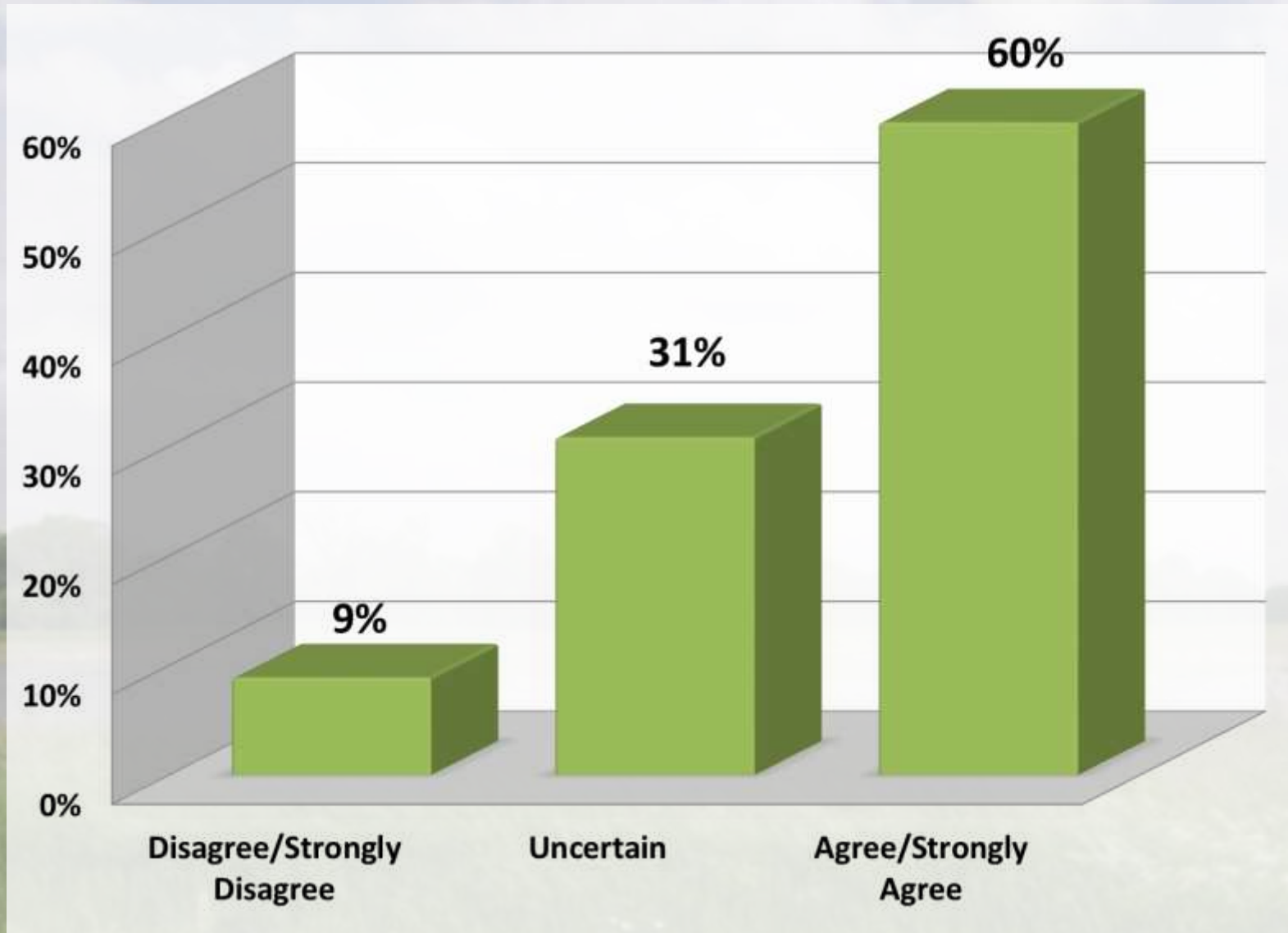
I am concerned about agriculture's impacts on Iowa's water quality



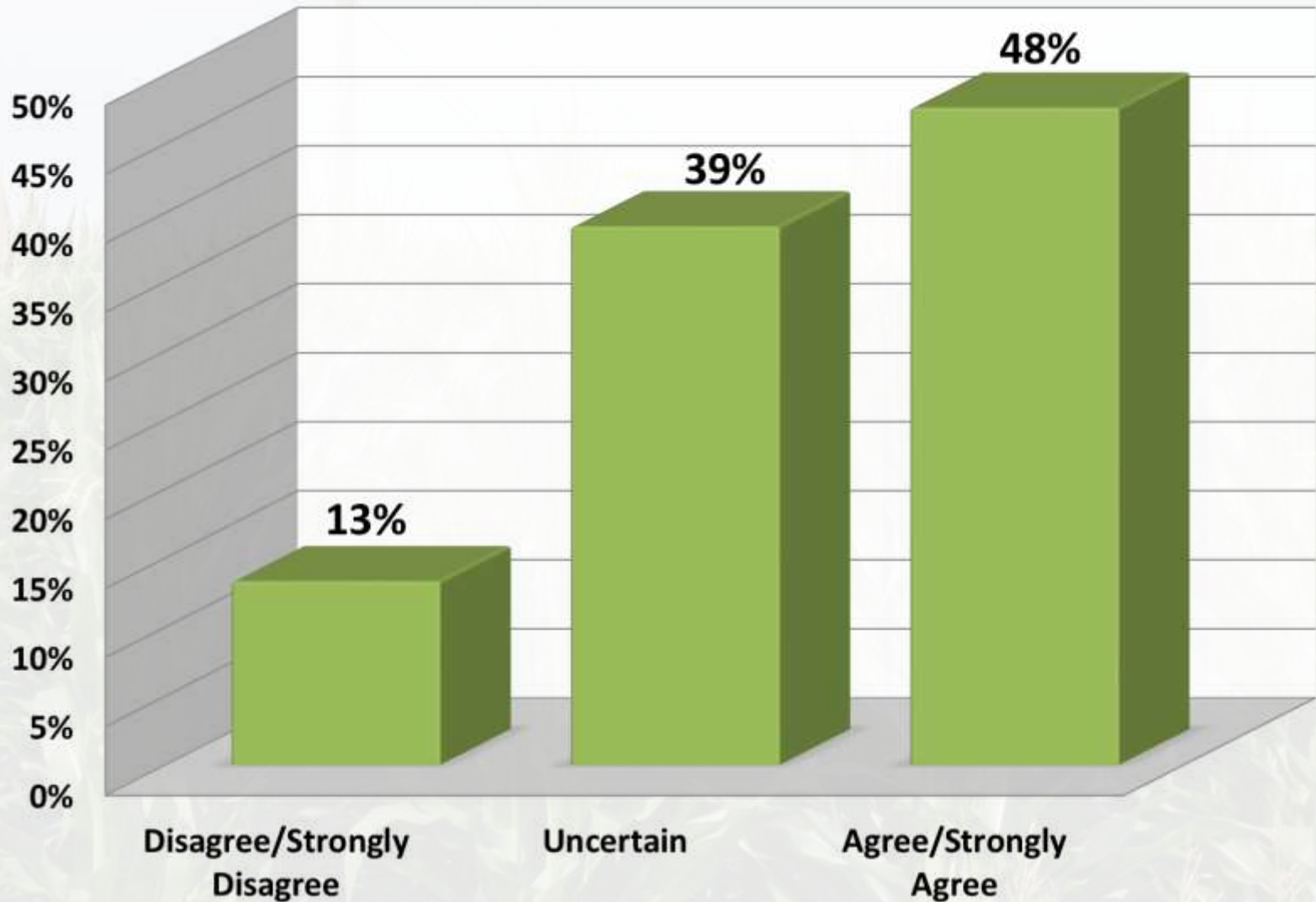
Iowa farmers should do more to reduce nutrient and sediment run-off into waterways



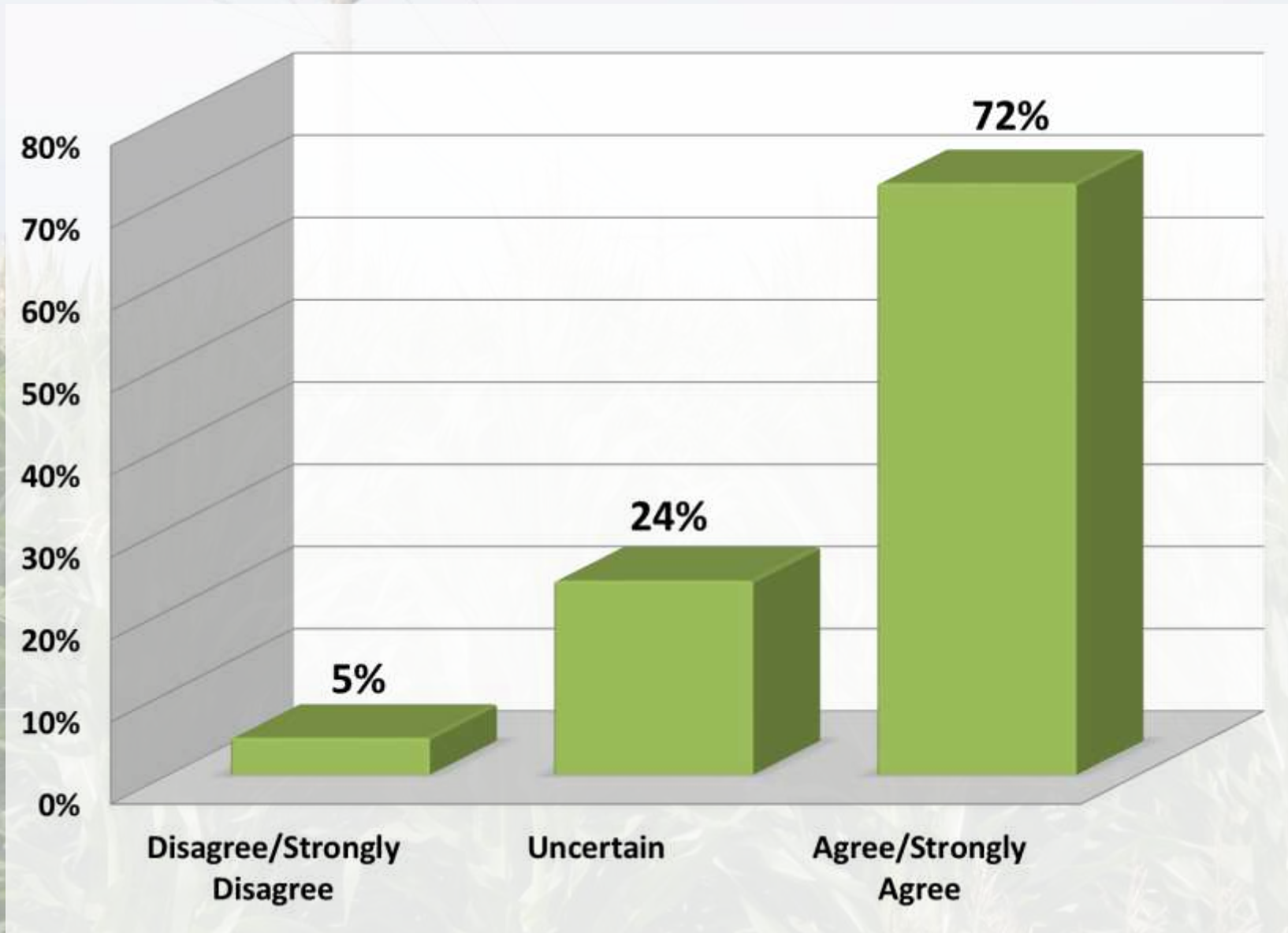
Fertilizer and ag chemical dealers should do more to help farmers address nutrient losses into waterways



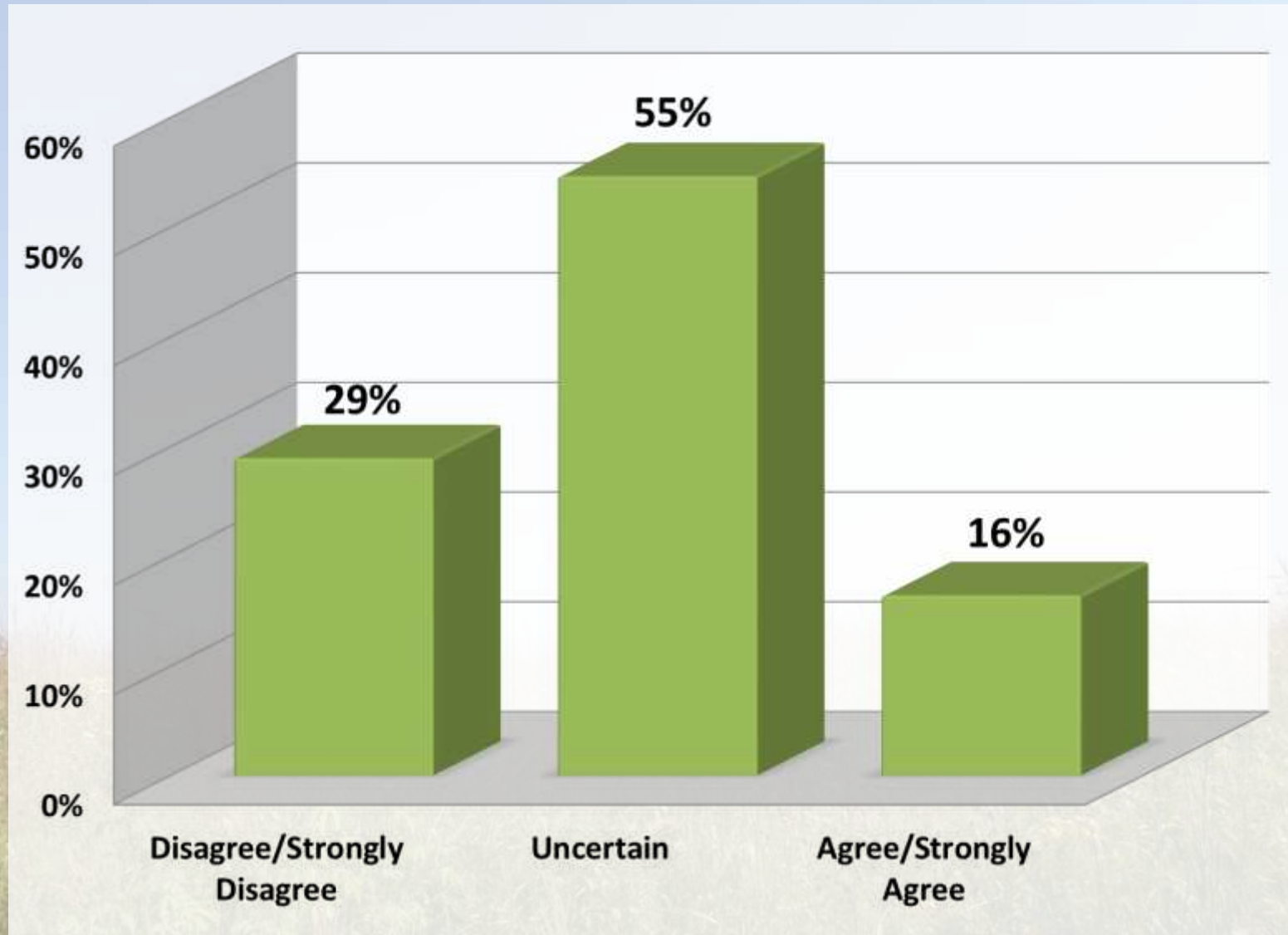
Helping to meet the Nutrient Reduction Strategy's goals is
a high priority for me



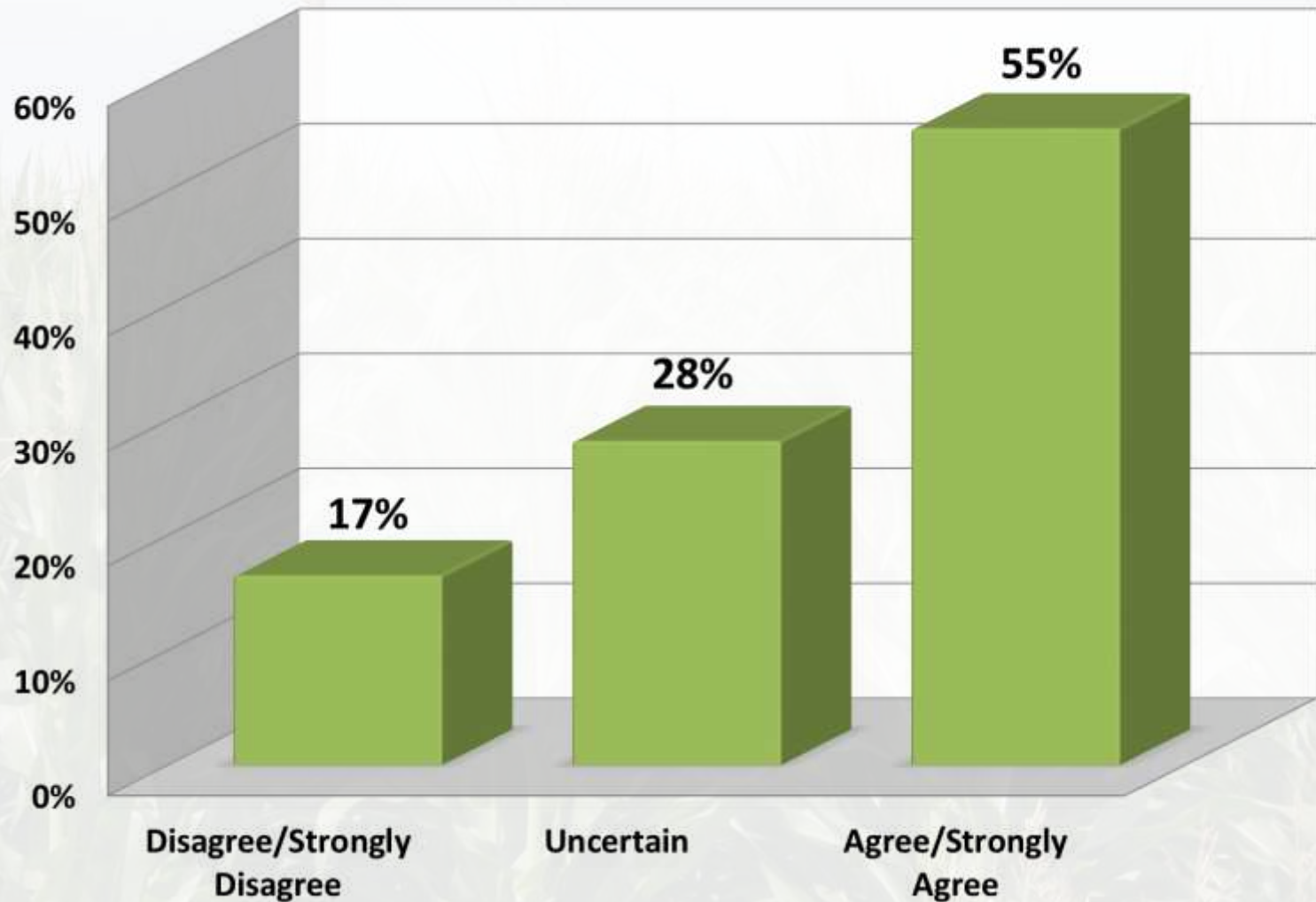
I would like to improve conservation practices on the land I farm to help meet the Nutrient Reduction Strategy's goals



The cost of further reduction of nutrient losses from my farm operation would be too high



Short-term pressure to make profit margins makes it difficult to invest in conservation practices whose benefits are mostly long-term



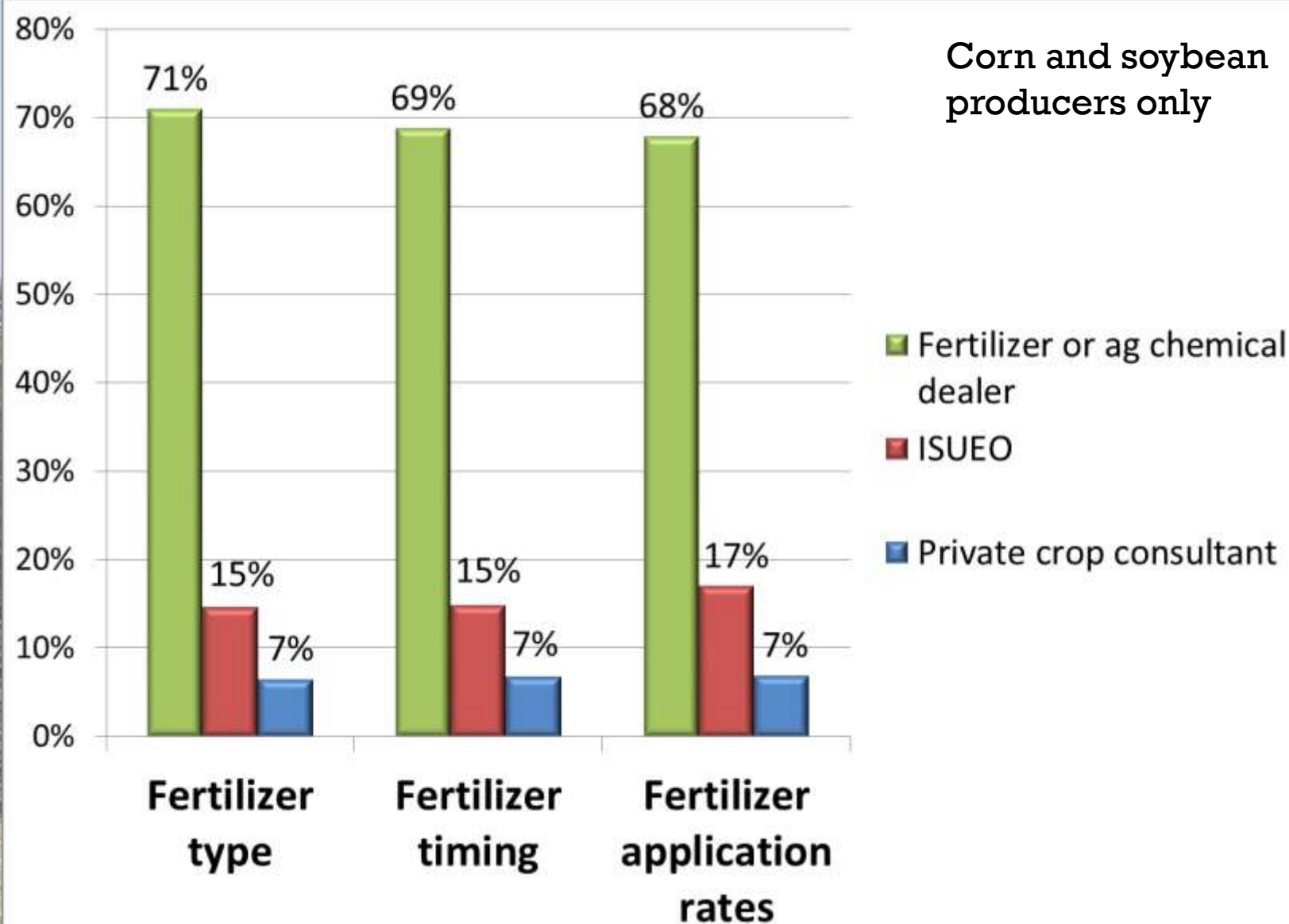
Summary of Nutrient Reduction Strategy Findings



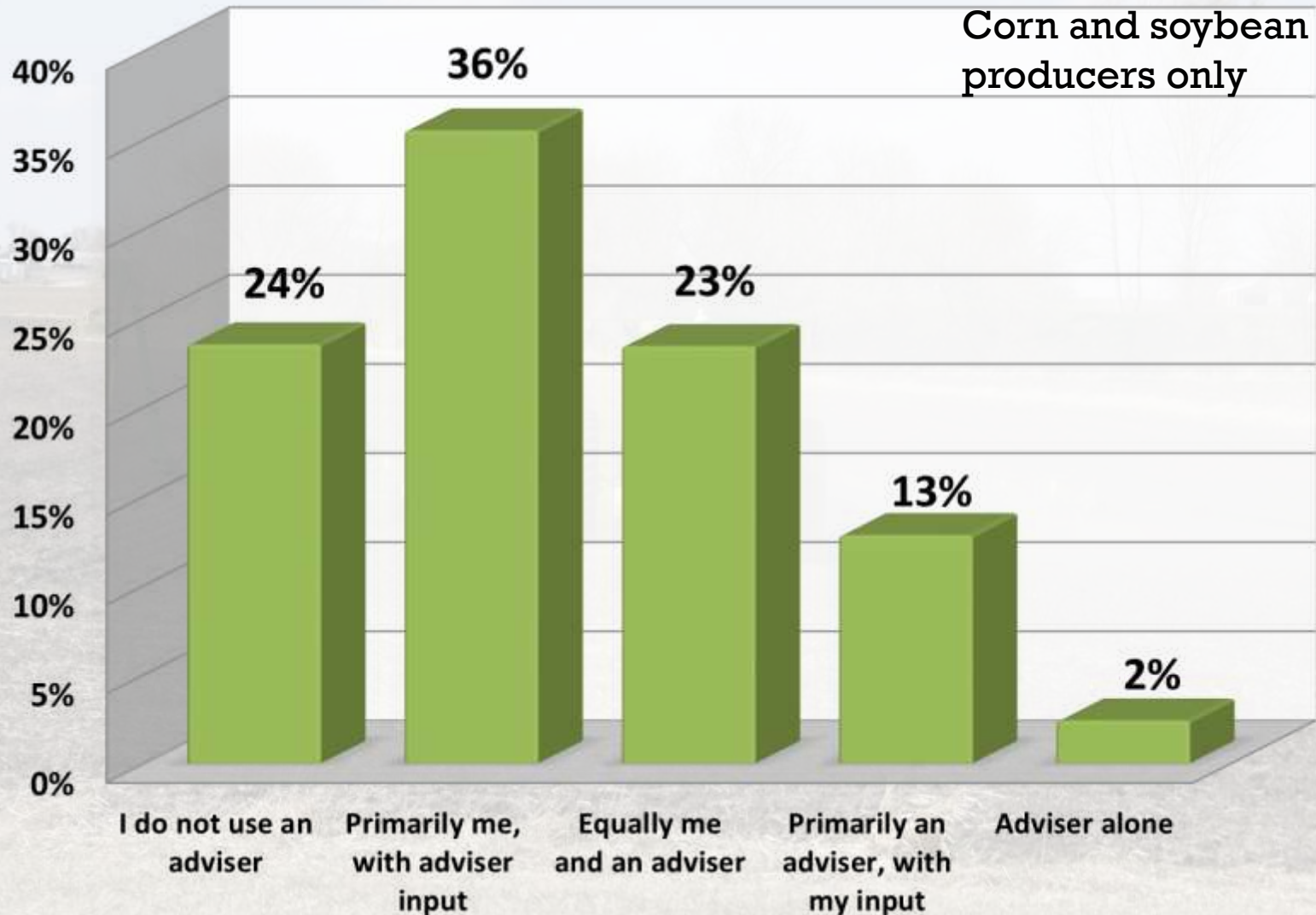
- Most farmers are aware
- Farmers support NRS goals
- Most learned about NRS from farm press, and agencies
 - Ag retailers low on list
- **Most farmers concerned about water quality**
 - Three-quarters want to improve their practices
 - **Nearly two-thirds think ag retailers should do more**

Trusted Information Sources: Fertilizer Decisions

Corn and soybean
producers only



Professional Advisor Role in Decision Making: Fertilizer Program Development

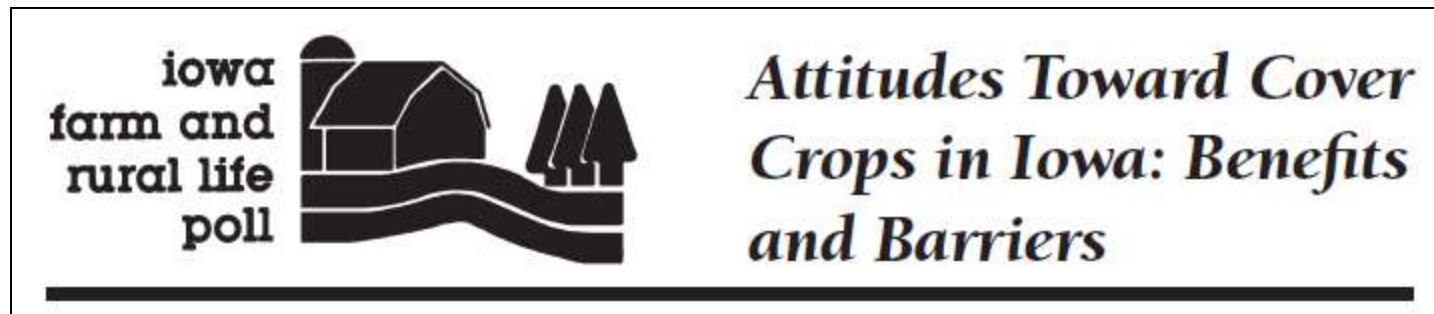


Farmer Perspectives on Cover Crops, 2010-2014



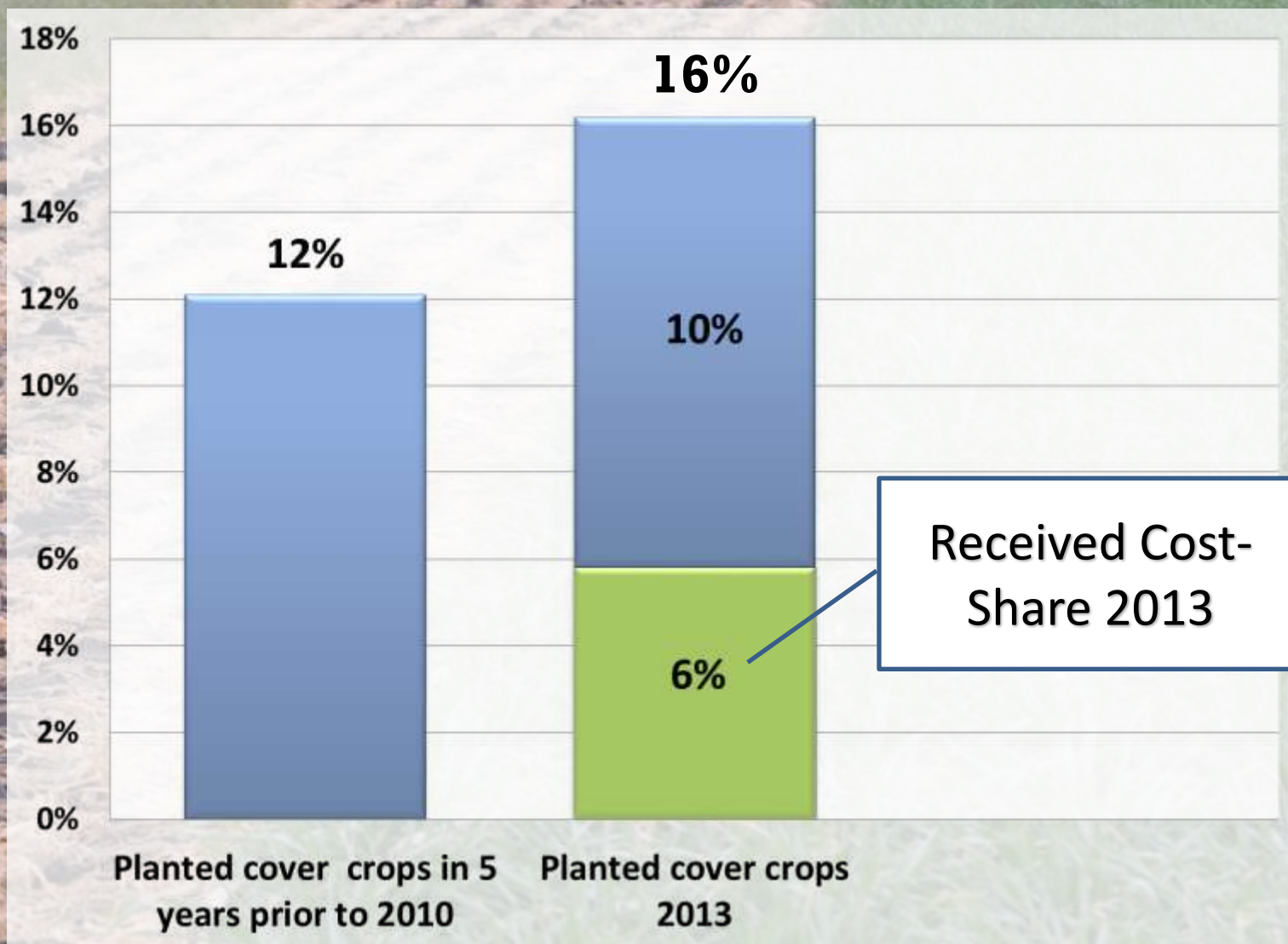
Farmer Perspectives on Cover Crops, 2010-2014

- Series of cover crops questions in 2010

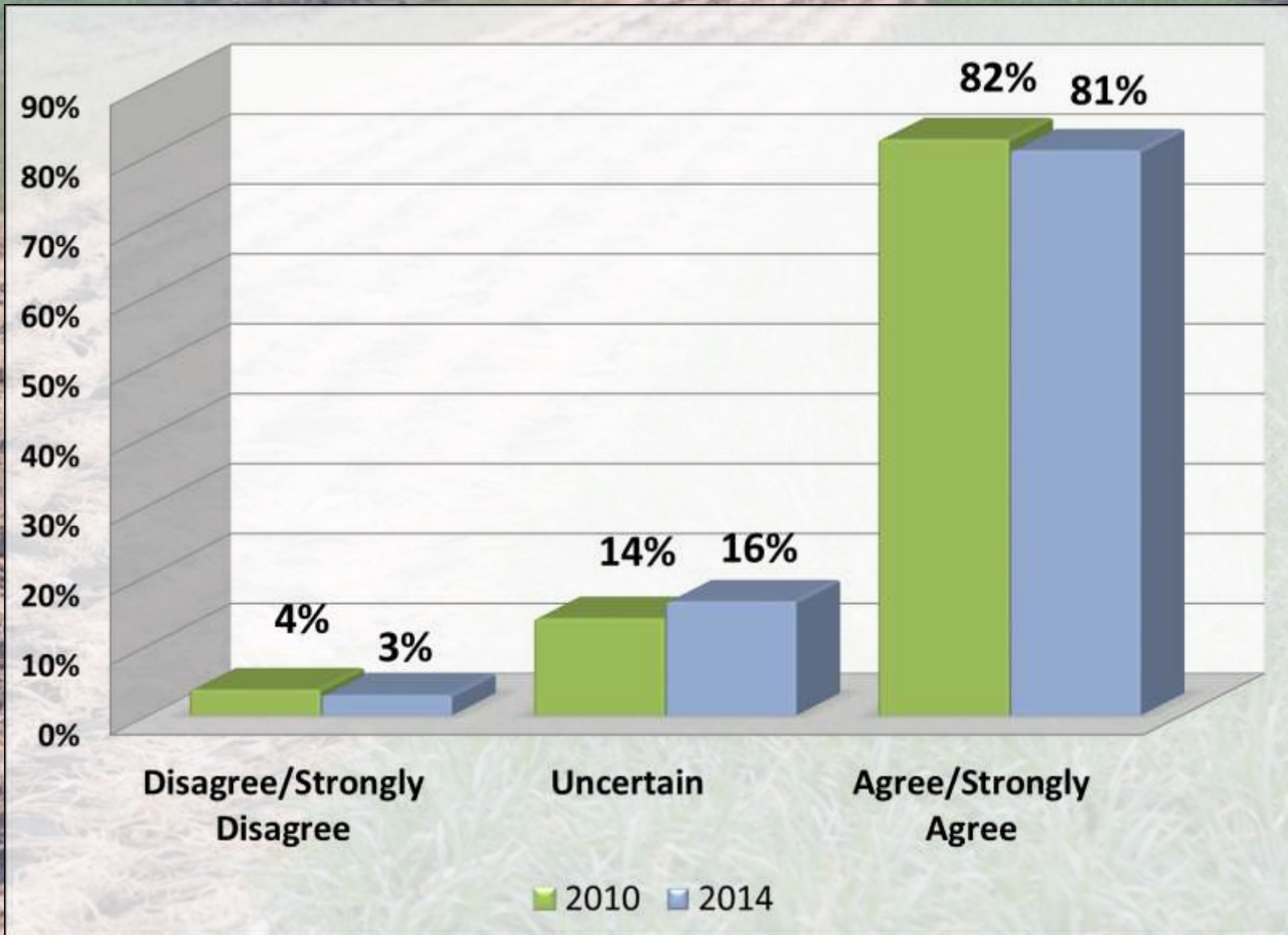


- Repeated some questions in 2014
- Environmental and agronomic benefits, perceived barriers, interest in learning
- Compared same farmers' responses over time

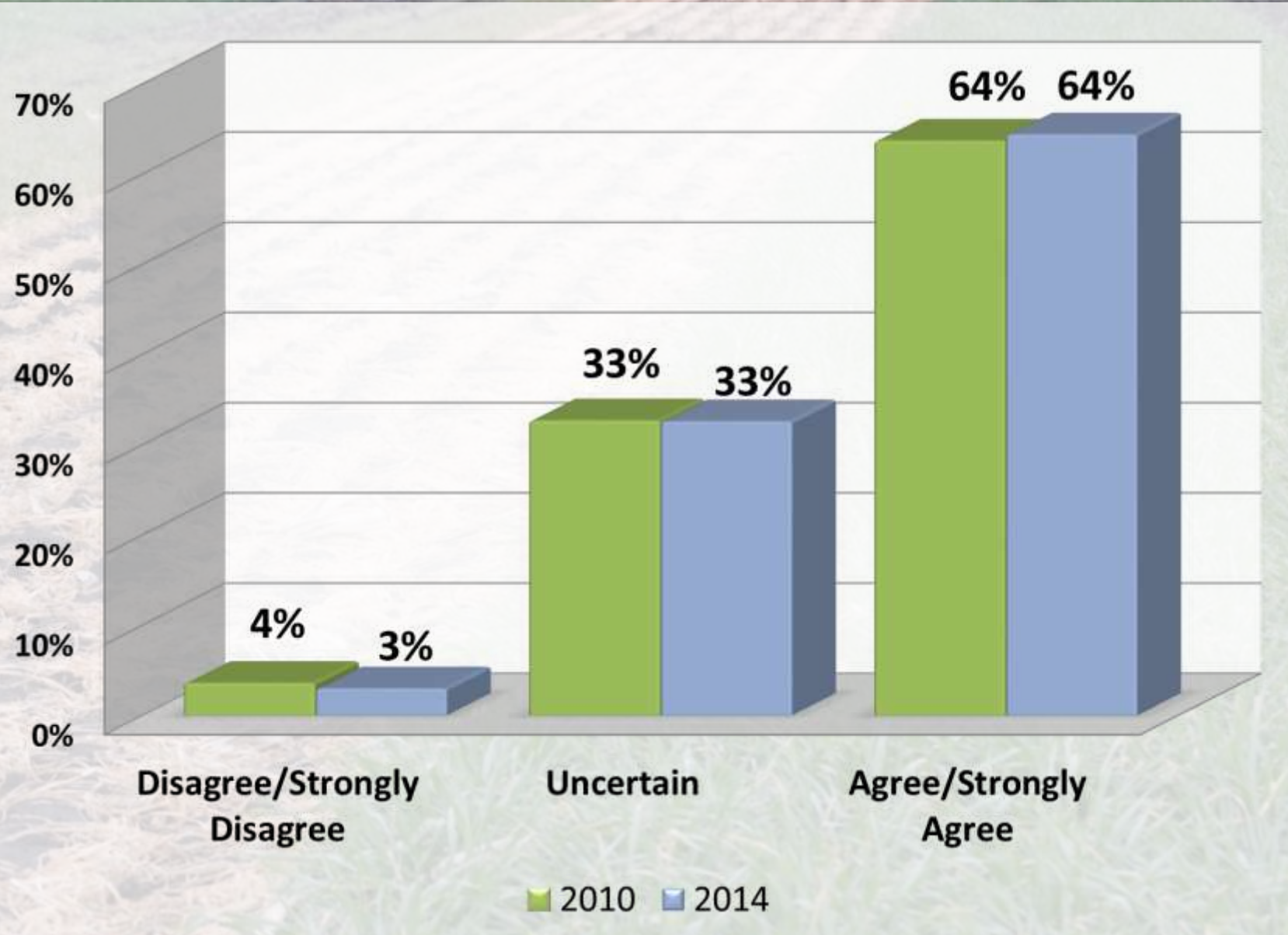
Use of Cover Crops, 2010 and 2014



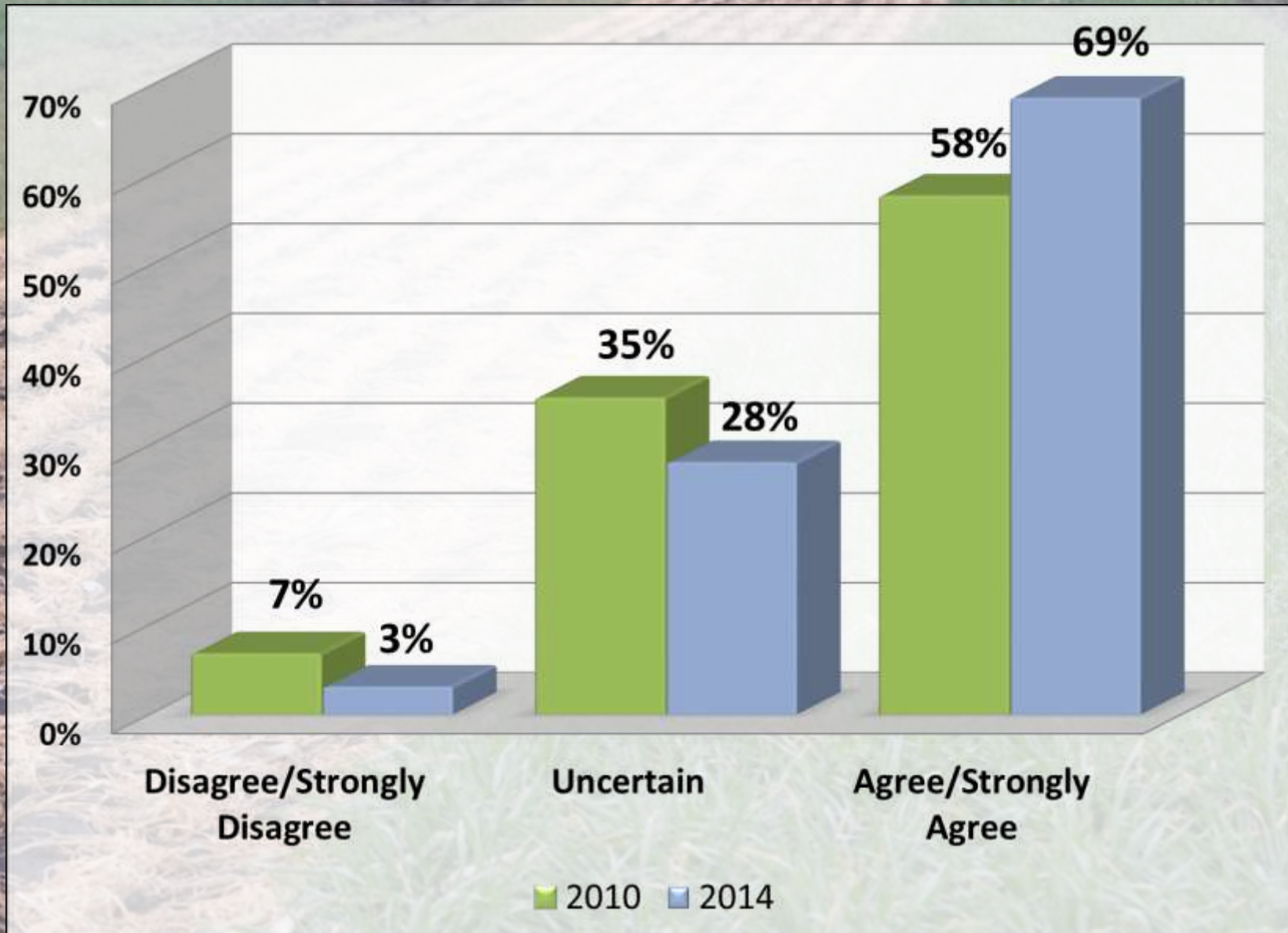
Cover crops can reduce soil erosion significantly



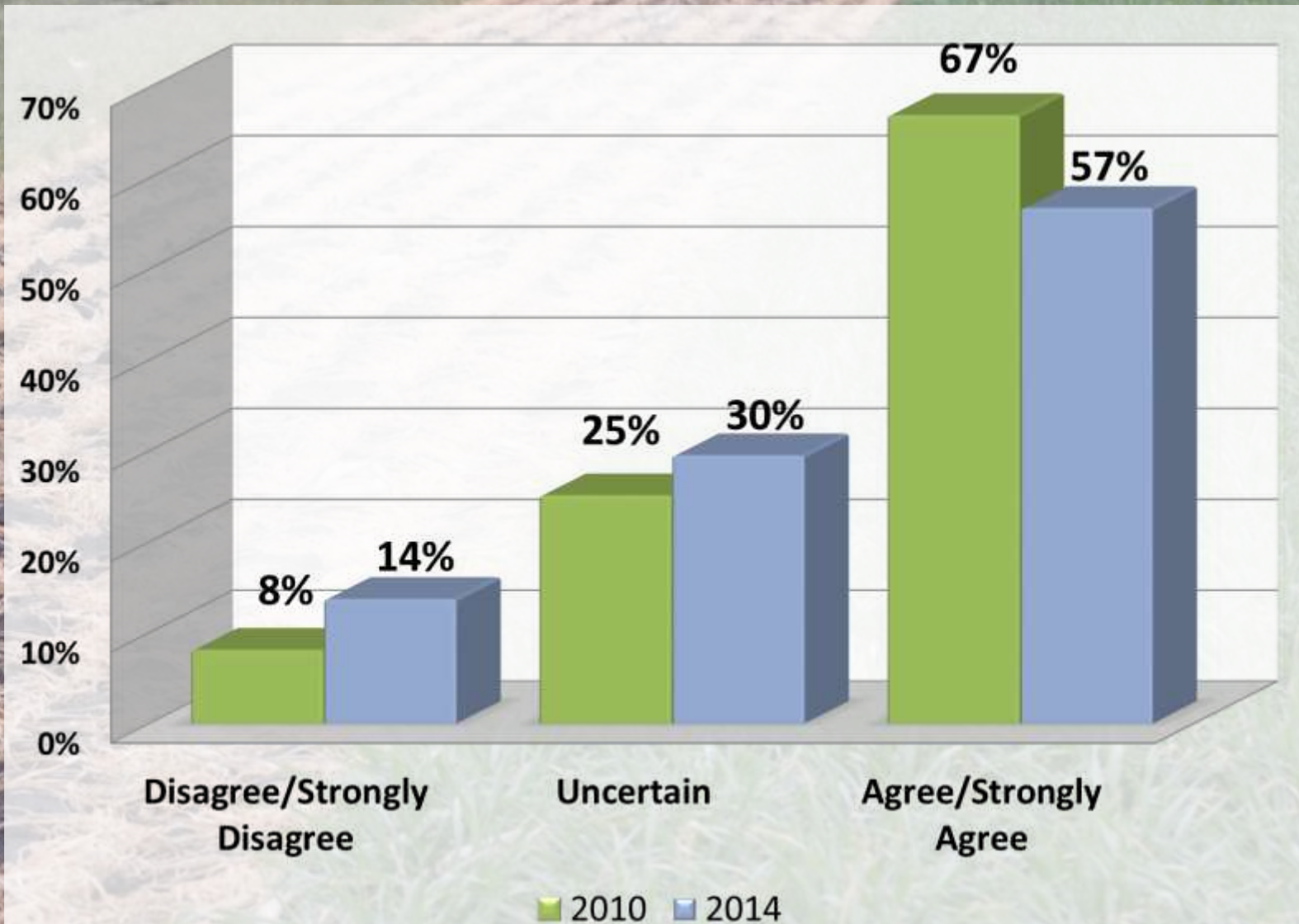
Cover crops can improve soil productivity



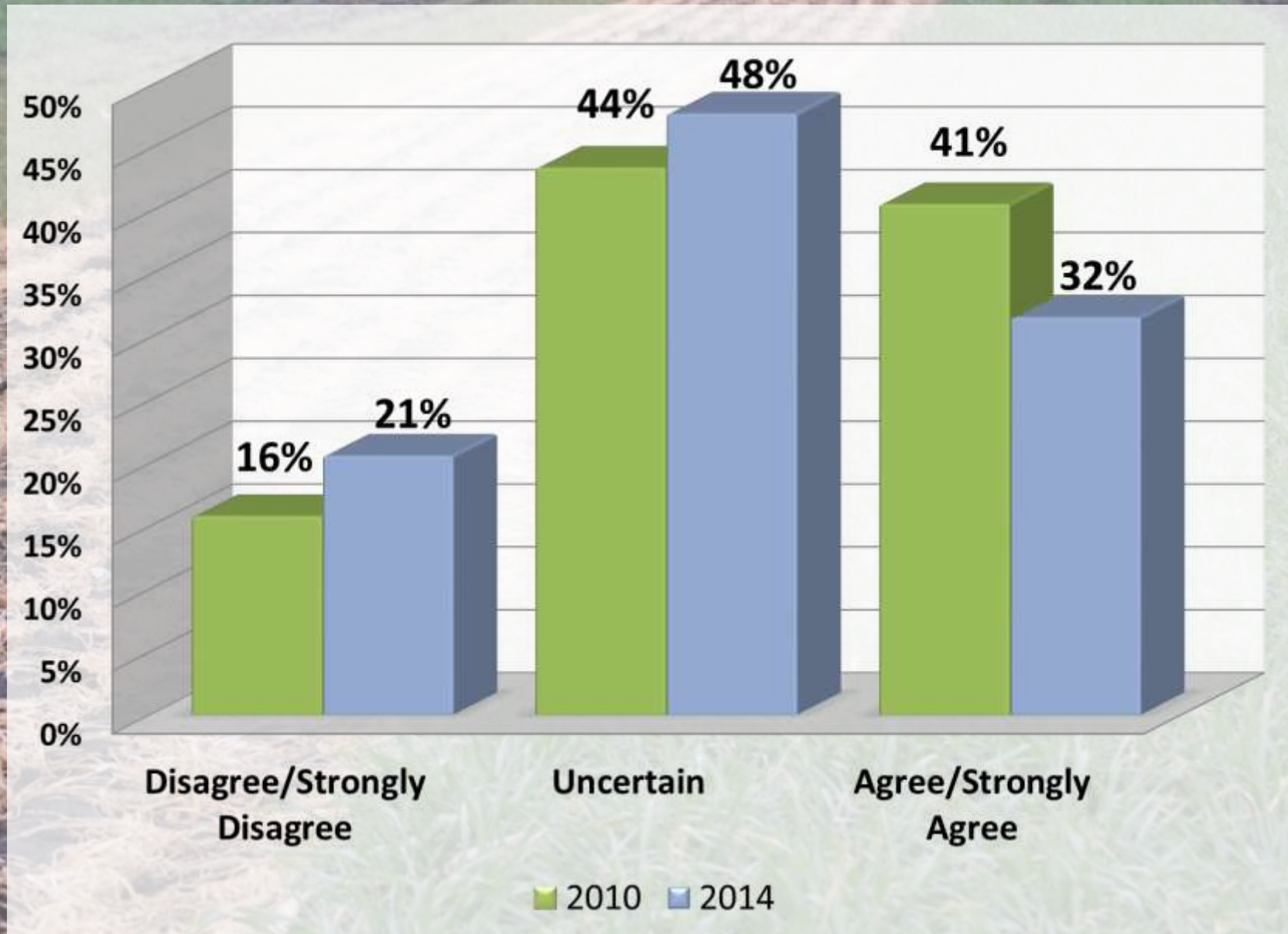
Cover crops can reduce nitrogen and phosphorus losses



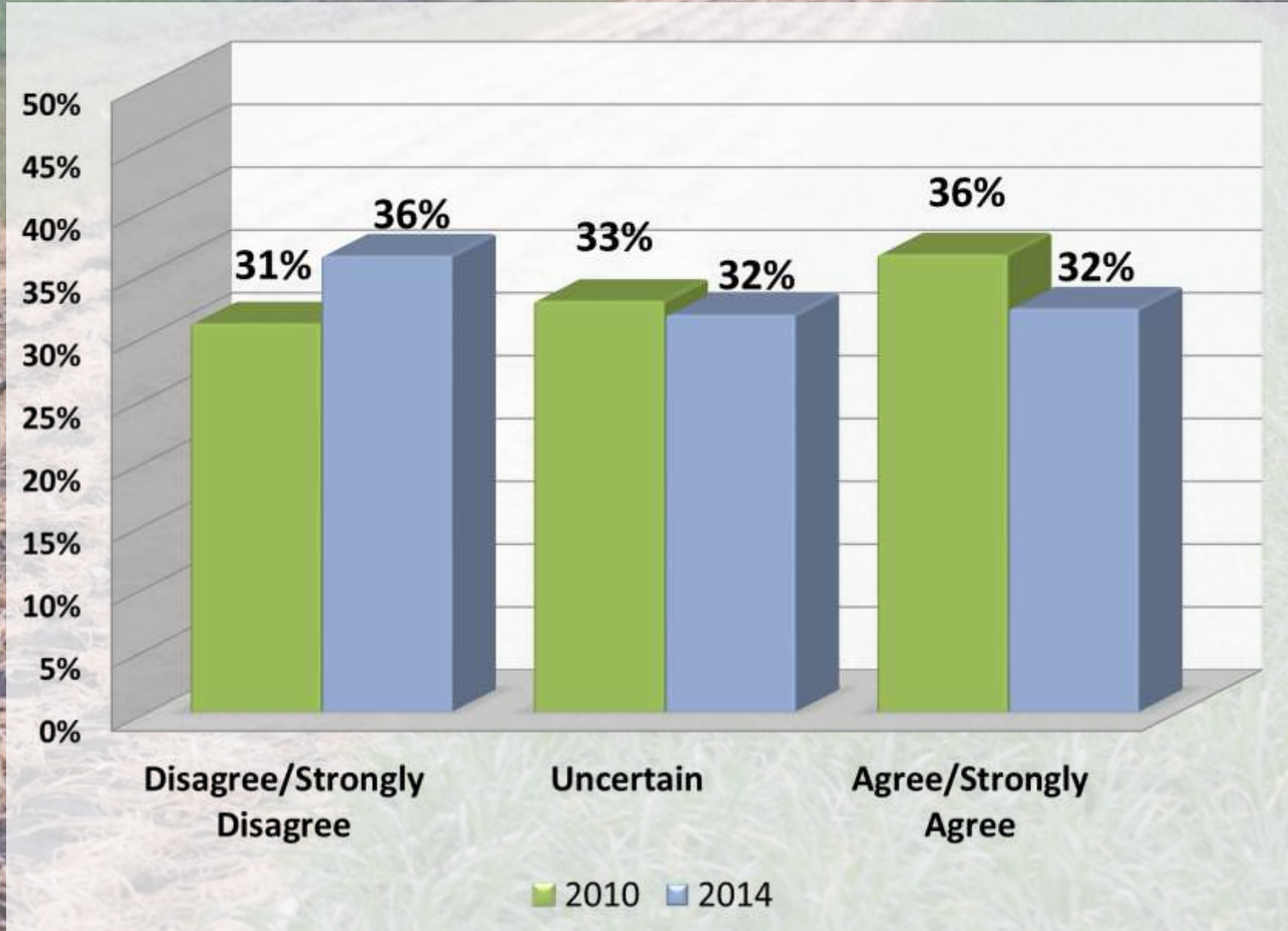
There is rarely enough time between harvest and winter to justify the use of cover crops



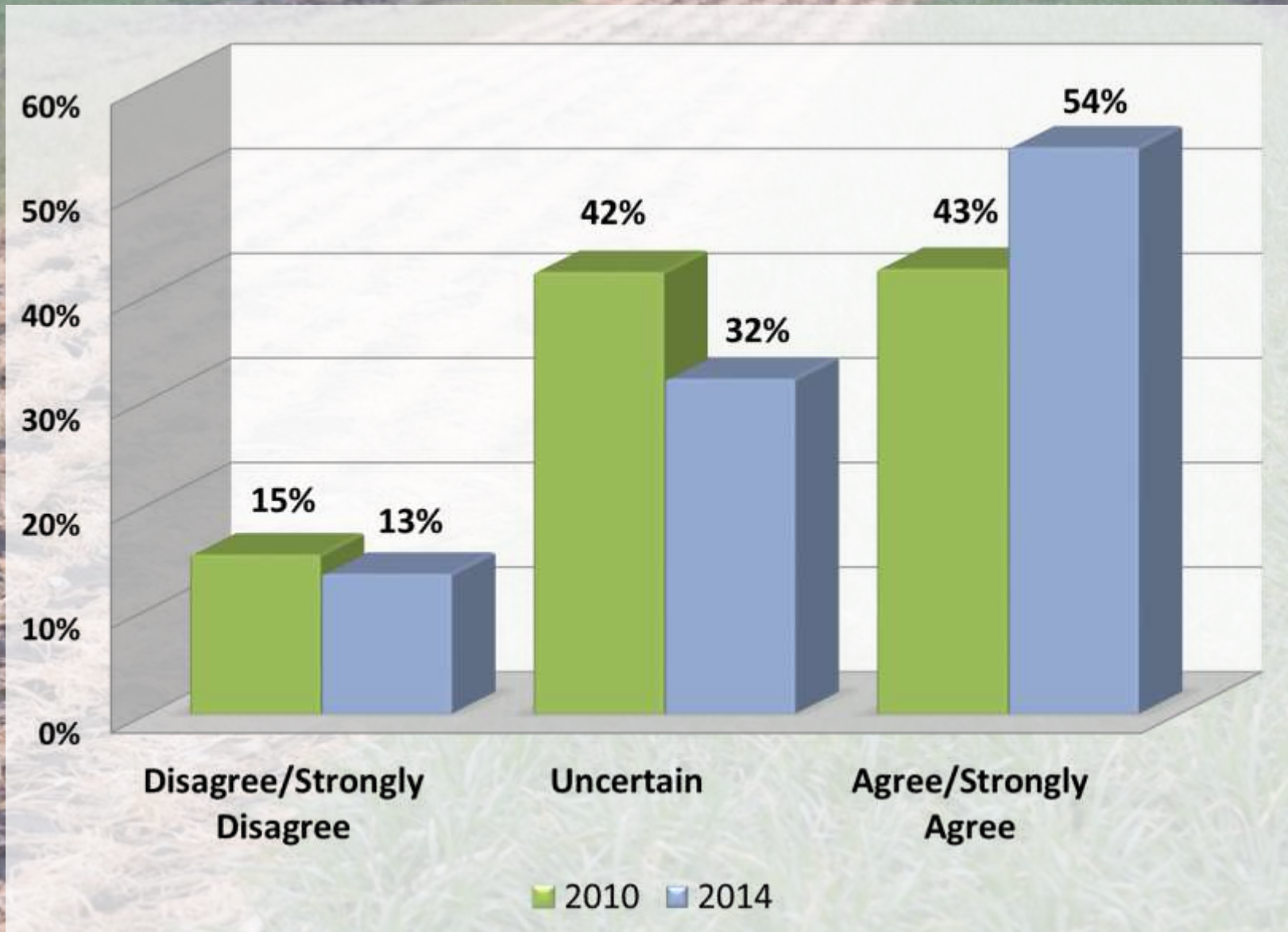
Cover crops can delay spring planting



I don't know enough about cover crops to use them



I would like to learn more about using cover crops



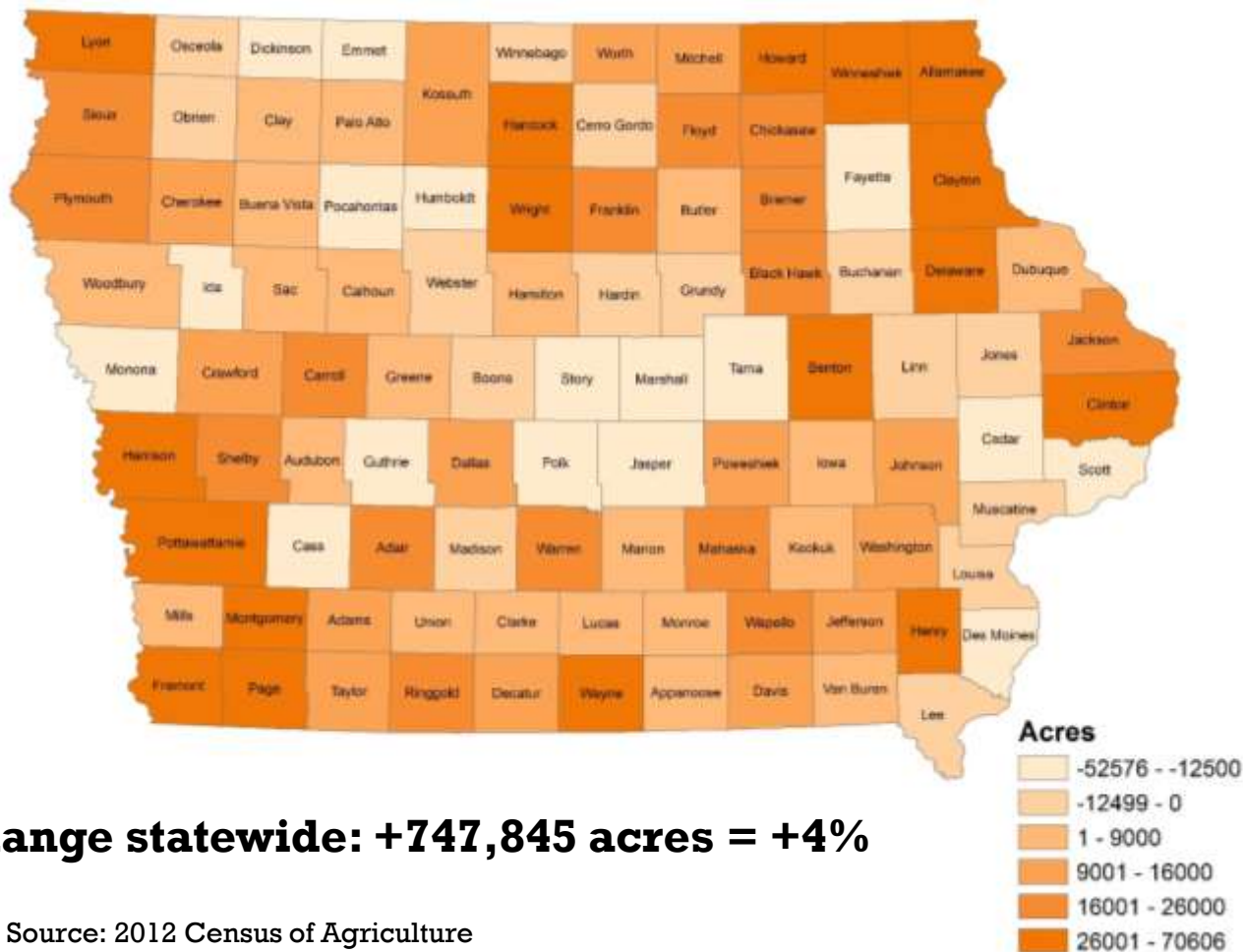
Summary of Changes, 2010-2014

- Most farmers still see covers as effective for erosion control, building soil health
- Many more appreciate the nutrient reduction potential of cover crops
- Farmers not as concerned about climate-related barriers, lack of knowledge
- Most farmers want to learn more

Conclusions

- Positive perceptions of NRS
- Farmers seem to be supportive of NRS goals
- Major gains on cover crop use, attitudes regarding both benefits and barriers
- Need to build on progress
- Pathways: Trusted advisors
 - Most farmers trust ag retailers for info on fertilizer use
 - Few farmers report hearing about NRS through ag retailers
 - But many think that ag retailers should do more
 - Need to strengthen partnerships with ag retailers

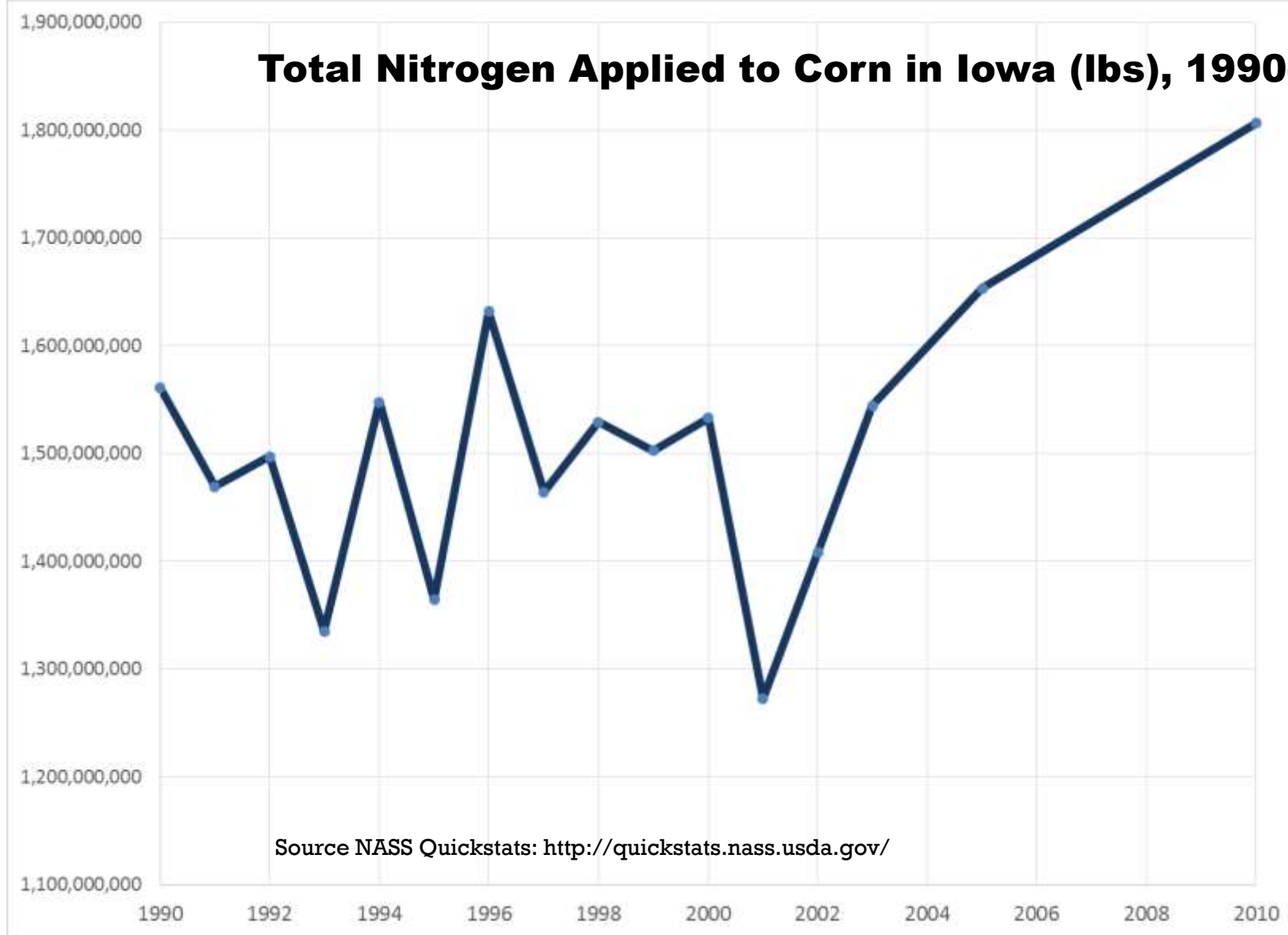
Change in cropland acres fertilized, 2007-2012



Change statewide: +747,845 acres = +4%

Source: 2012 Census of Agriculture

Total Nitrogen Applied to Corn in Iowa (lbs), 1990-2010



Thank you!



IOWA STATE UNIVERSITY
Extension and Outreach

Multiple Benefit Prairie Conservation Strips. Photo courtesy of A. McDonald
<http://www.nrem.iastate.edu/research/STRIPs/>