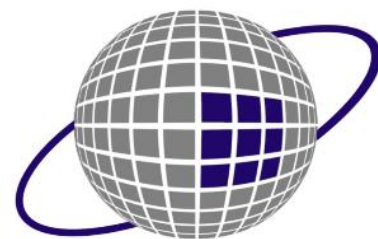


American
Soybean
Association and
Walton Family
Foundation
Soil Health
Research
Initiative

WALTON FAMILY
FOUNDATION



MILLENNIUM

[RESEARCH, INC.]



1

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Executive Summary

3

- ▶ ASA and WFF commissioned Millennium Research to conduct four focus groups and a quantitative survey among ASA members and boards in 13 states in the Mississippi River basin.
- ▶ Data was collected from December 2018 to July 2019.
- ▶ Key findings are:
 - ▶ Growers, on average, have 14 long standing conservation practices in place and have added new ones recently and intend to implement more.
 - ▶ The average grower pays for all conservation measures, even on rented land, with average expenditures of more than \$15,000 per year.
 - ▶ The NRCS is well respected, but effectiveness varies by county. There is an opportunity for ASA and WFF to leverage NRCS funding and expertise, as awareness of many programs is low among growers.
 - ▶ Grower organizations and land grant universities are the most trusted sources of information for farmers. This puts ASA in a key position to lead and promote more implementation, as well as fund research efforts to make key practices more broadly successful.
- ▶ Creating a three-prong approach in cooperation with Land Grant Universities and the Walton Family Foundation would be a winning combination in delivering high quality, credible information to growers.
- ▶ Growers would like a way to recognize and measure the amount of stewardship they do, so they can show others the care they take toward the environment.
- ▶ In addition, growers want help telling their story of their environmental stewardship to the public. ASA and WFF are well positioned to lead these efforts.

Farmers need help telling their story

The research shows that on average, farmers have 14 soil and water health measures in place, and spend more than \$15,000 a year to maintain their conservation practices. Many feel unfairly targeted by environmental activists and want help telling the public about the benefits of modern farming practices.

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Millennium Research Inc. *Good Questions. Better Answers. Breakthrough Results.*

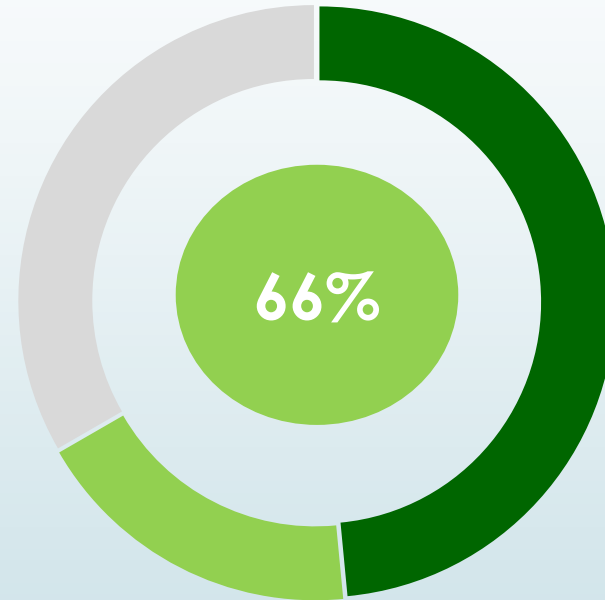


This Photo by Unknown Author is licensed under [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/)

Farmers feel unfairly targeted for environmental problems

Half strongly agree ag is unfairly blamed for environment

"Agriculture is unfairly blamed for many environmental problems."



"We've done a very bad job of telling our story."

Dark green indicates percent who strongly agree with the statement, light green means agree with the statement. Grey is less than agree. Center circle is total agree.

Growers would like their organizations to communicate with the public

- ▶ Most growers are tired of environmental hazards being placed only on agriculture's shoulders, when cities, golf courses, homeowners do much to pollute the nation's waterways.

"Tell a story of the farmer. And it's not the ... we've got to get ... I don't know how you do it. Maybe it's too far gone to recover this but I think deep down, farmers are respected in this country by everyone. I think everyone, they want to eat, but at the same time we hear the stories of a few bad apples and we've seen things happen. If they (activists) don't quit trying to quit livestock production, you're going to be buying all of your meat from Brazil, Argentina and everywhere else, and they have no rules like we do. We've all ... we can all stand up and preach our story but we need somebody else out there out in front of us ... Mike Rowe's the best as far as I'm concerned."—Louisville, KY

Farmers currently conserve and improve their land

The average farm has implemented 14 soil and water conservation measures. What they do on their own land, they do on rental acres as well.

7



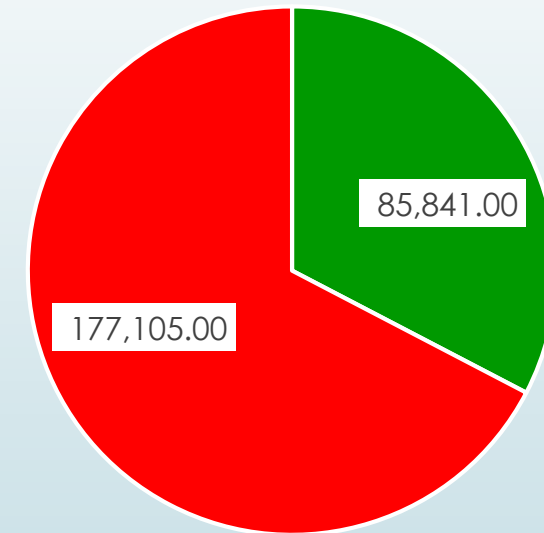
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“Everybody can have a different interpretation of sustainability, but I think for most of us, it's trying to make a living on the land that we do, and leave it in a better way than we started with it.”—South Dakota

One-third of acres in the study require a soil or water conservation plan

- ▶ Among the designated farmland:
 - ▶ 44% Highly erodible land (HELIC)
 - ▶ 21% Priority watershed
 - ▶ 17% Wetland Conservation (WC)
- ▶ One-third (33%) of respondents have no designated farmland.
- ▶ Livestock producers are significantly more likely to have land designated as priority watershed (37%) and wetland conservation (31%).
- ▶ **Grain-only farmers are twice as likely as livestock farmers to have no designated land (43% v 20%).**

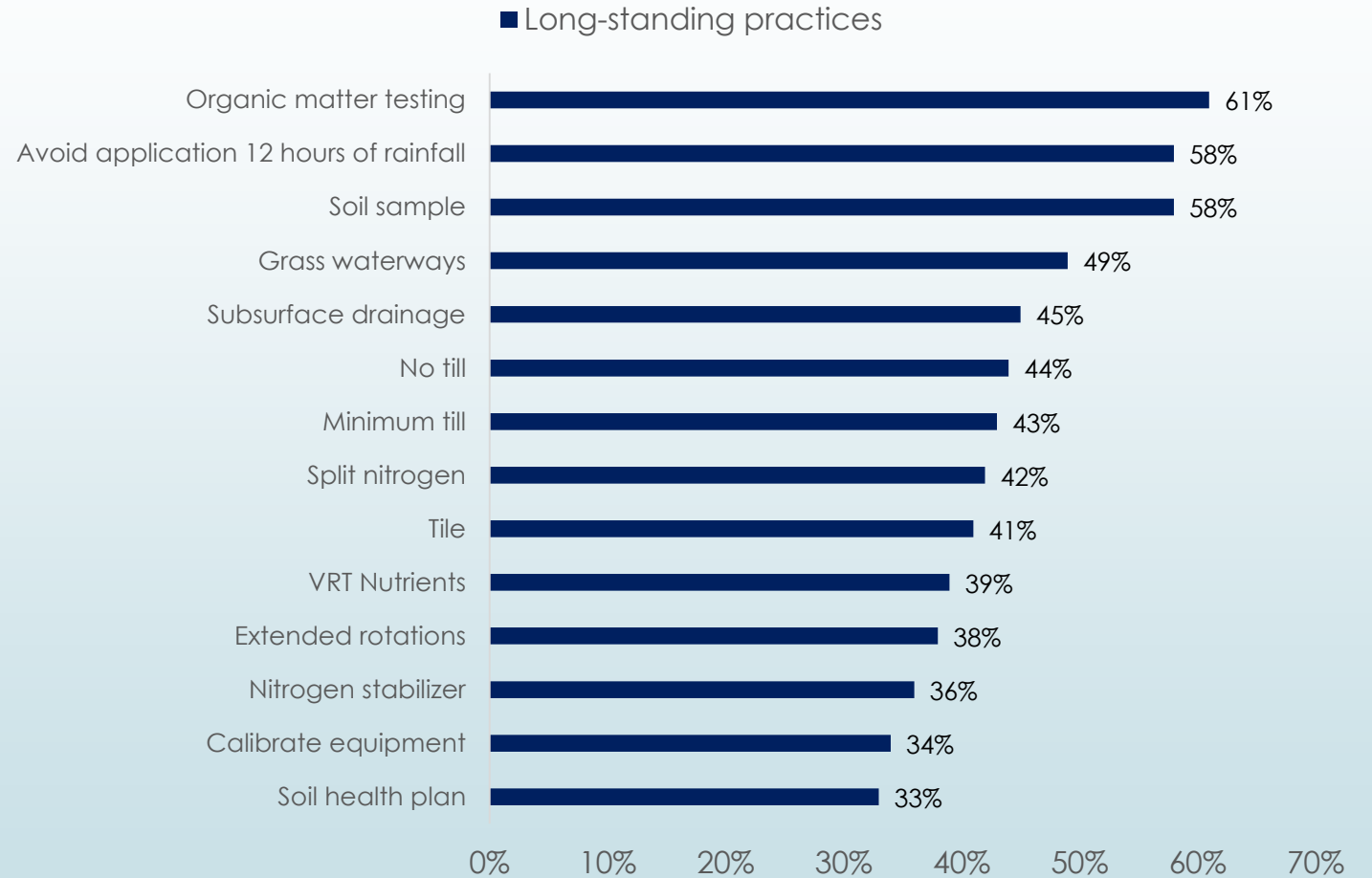
Acres in the study requiring a soil and water conservation plan



- Requires conservation plan
- Does not require conservation plan

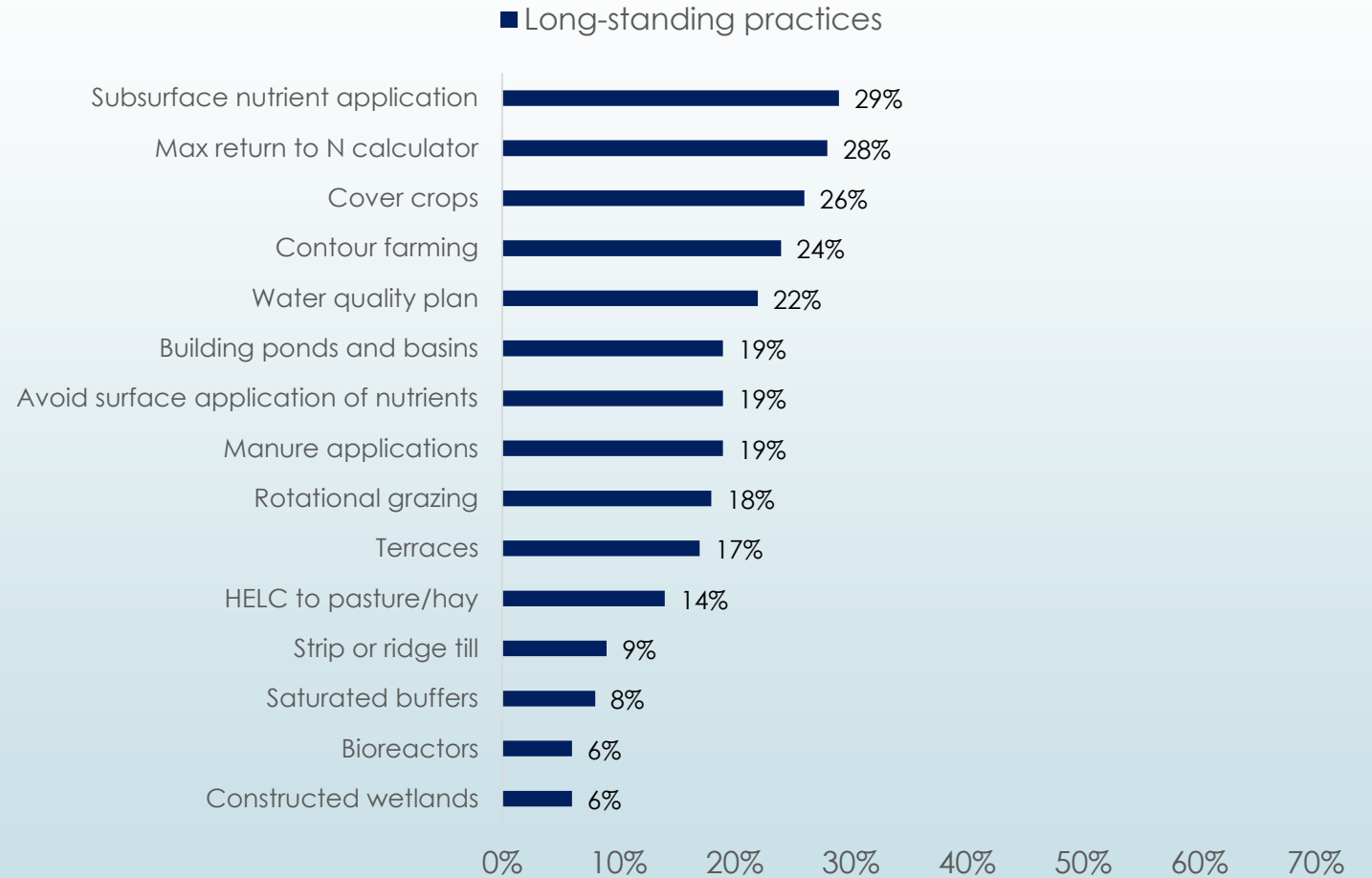
Long-standing conservation practices include soil sampling, application timing

Top long-standing conservation practices on owned land



Practices that are less widespread are often not necessary for good stewardship

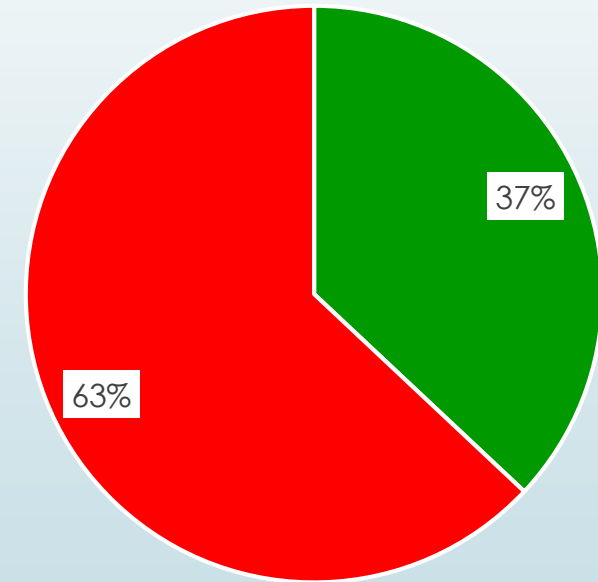
More long-standing conservation practices on owned land



Most farmers pay for all soil and water conservation practices—even on rented land

- ▶ The cost of soil and water stewardship is not cheap.
- ▶ Farmers in the study estimate they spent \$6,701,791 on soil and water stewardship practices in 2018, or an average of \$15,233.
- ▶ For those with land designated as wetlands or highly erodible ground, more than one-third of farmers do get help from landlords on conservation practice expenses. Average costs among these growers was \$22,352 in 2018.
- ▶ Among those without any designated acres, 76% of growers pay for all conservation practices themselves, these averaged \$6,976 in 2018.

Does your landlord share in expenses for soil/water conservation practices?

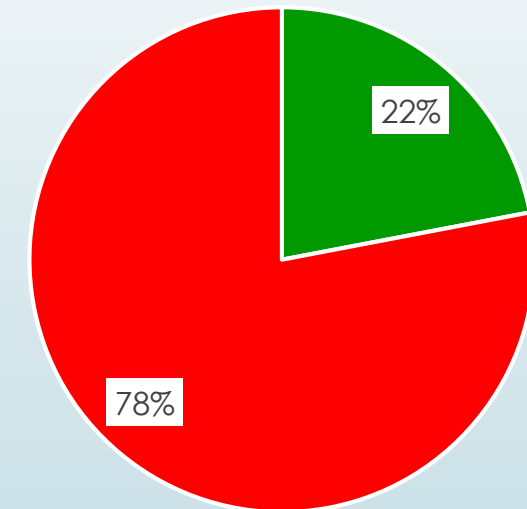


■ Yes ■ No

Three-quarters of farmers manage rental land the same as their own

- ▶ 52% of the total land farmed is rented land.
- ▶ Most farmers (78%) manage rental land the same as land they own.
- ▶ This means that the positive practices put in place by average farmers extend toward all the land they farm.

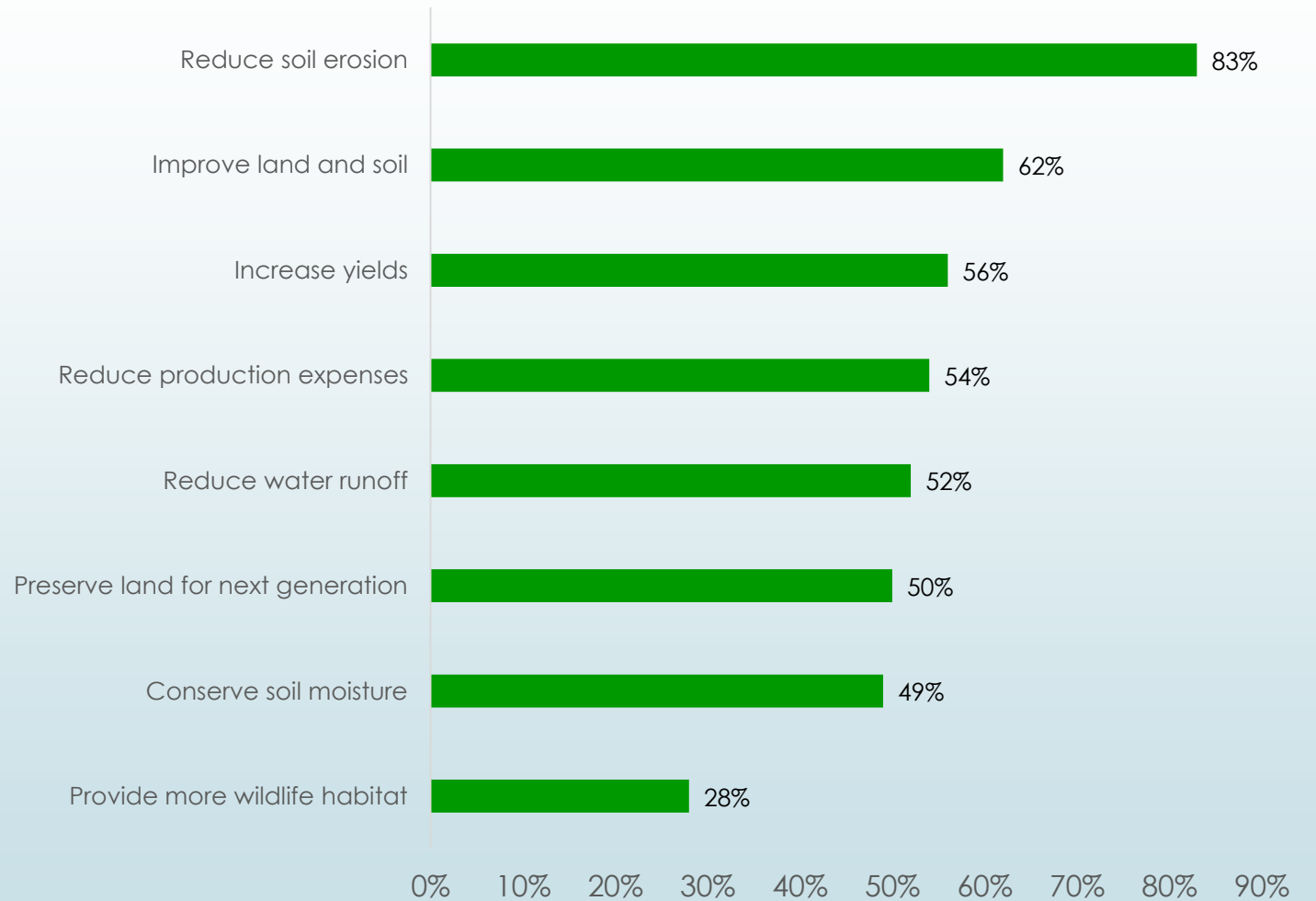
Do you use different management systems for rental land based on rental alone?



■ Yes ■ No

Growers want to reduce soil erosion, improve their land and soil with conservation practices

Reasons to adopt conservation practices



The future of soil and water conservation is promising

Growers continue to implement new practices that conserve soil and water quality and want to add more.

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Farmers want to do the right thing, finding the right fit and practice can be challenging



Attitudes toward conservation and soil health have evolved over the past 20 years, with respondents admitting they need to pay more attention to practices that enhance soil and soil structure, and treat the land as a living organism structure.



Once soil health practices are established, most respondents say there are long-term benefits to their crop and profitability as well. However, getting there can be years of trial and error and unintended consequences that are costly.



Finding practices that improve soil health and water quality that are sustainable (do not require continual subsidization) and improve the ability of crops and the land to be resilient in the face of extreme weather events, is the challenge.



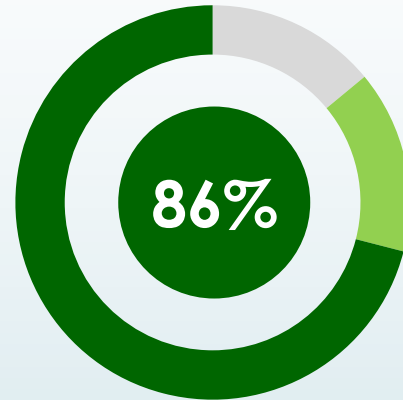
Practices that work and are cost-effective vary from field to field, and it's why no one-size-fits-all program will work. An effective and efficient county NRCS is critical to conservation practice implementation.

*“A broad brush does not cover every acre in the United States. Some blanket requirements I think are a waste of time and the taxpayers’ money, they won’t do what they were intended for. At the same time, I have never met a farmer who wasn’t a conservationist. We are all out there to protect our investment.”—
Minnesota farmer*

Farmers want to do the right thing for the environment, affordability is a concern

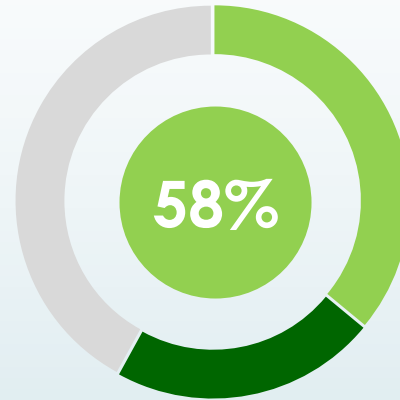
Conservation has overwhelming importance

"It is important to me to continually improve my land and soil quality."



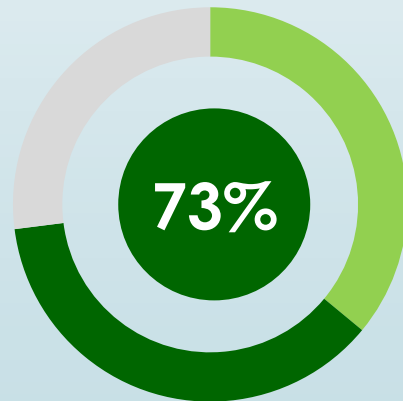
Many feel close to the front of soil health practices

"I am on the forefront of practices to improve soil health."



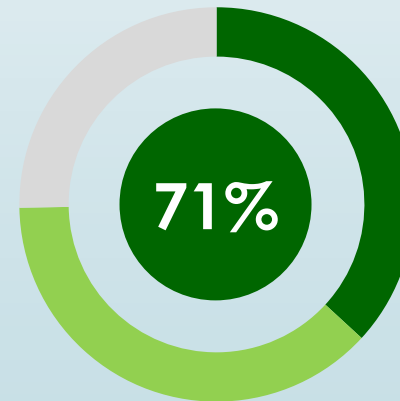
Affordability is a concern

"I would implement more practices if they had a proven return or were more affordable."



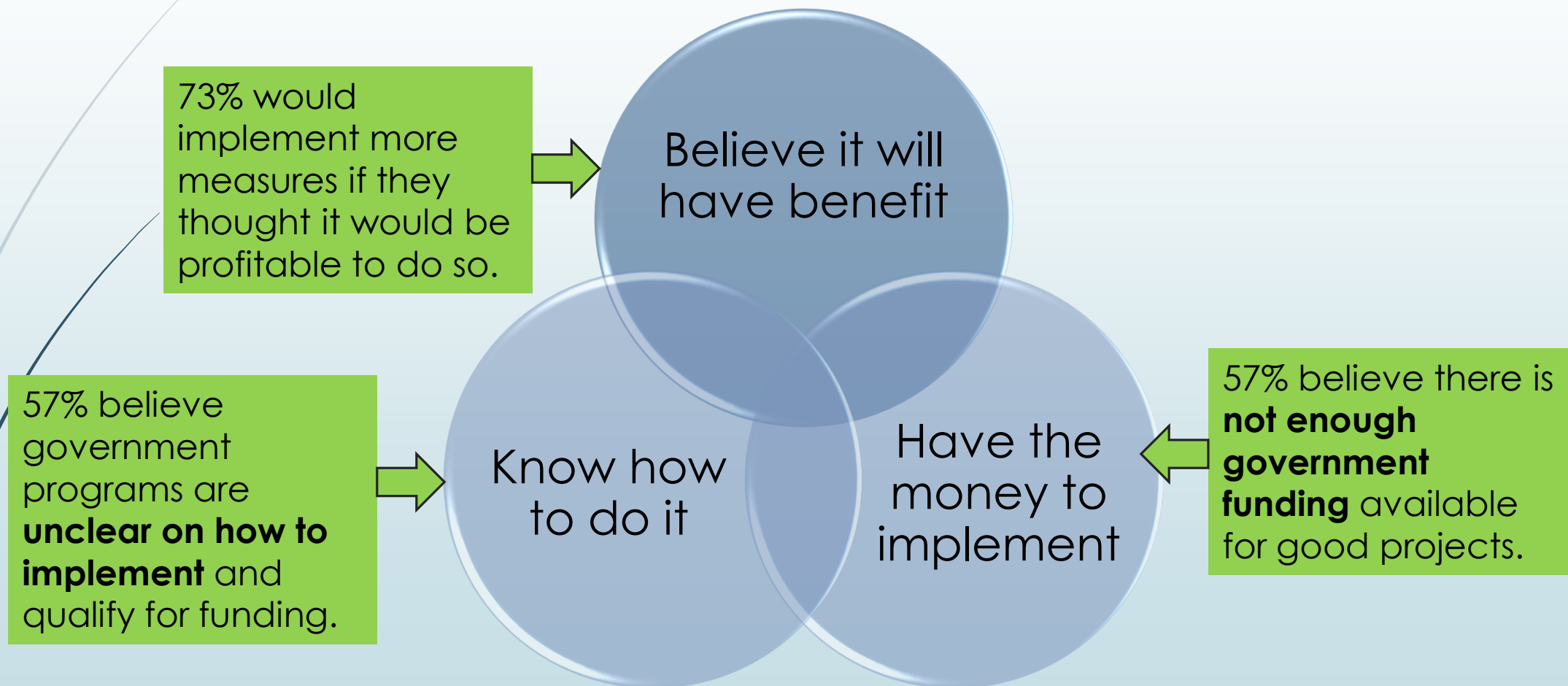
Most are willing to work with USDA

"I am willing to work with the USDA on soil and water improvement programs."



Dark green indicates percent who strongly agree with the statement, light green means agree with the statement. Grey is less than agree. Center circle is total agree.

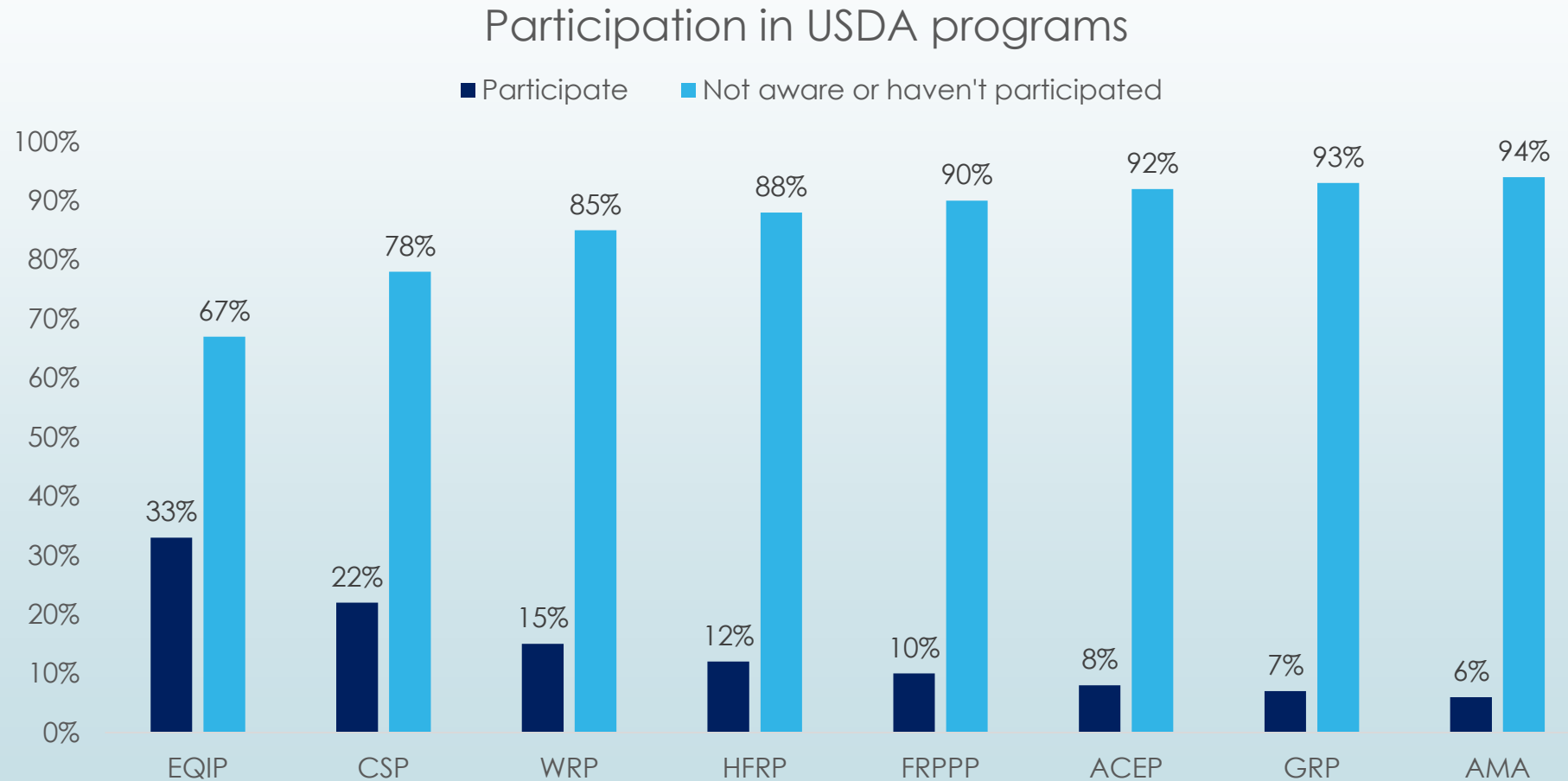
Three keys to adoption—significant barriers exist in money and resources



Farmers respect the programs offered by NRCS, see expansion as positive

- ▶ While growers interviewed say the NRCS is sometimes inconsistent and county priorities depend upon county leadership, they believe the programs offered are valuable and useful in order to fund land improvements that increase soil health and water quality.
- ▶ The ideal program for farmers would enhance current NRCS programs with more outreach and advice to farmers, perhaps create a database of farmers who have successfully implemented measures who are willing to give advice to other farmers.
- ▶ They point out that the **NRCS is not actively promoting their programs, and many farmers don't know about the funds available, nor how they can make changes for the better on their own farm.** This is the outreach they think would be successful and well received, and where ASA and WFF can help.
- ▶ In addition, **they would like the program to provide success measurements, that they can share on a personal, county or state level to show that they and the industry are making progress on soil health and water quality.**

Participation is highest in EQIP, others have low awareness or participation

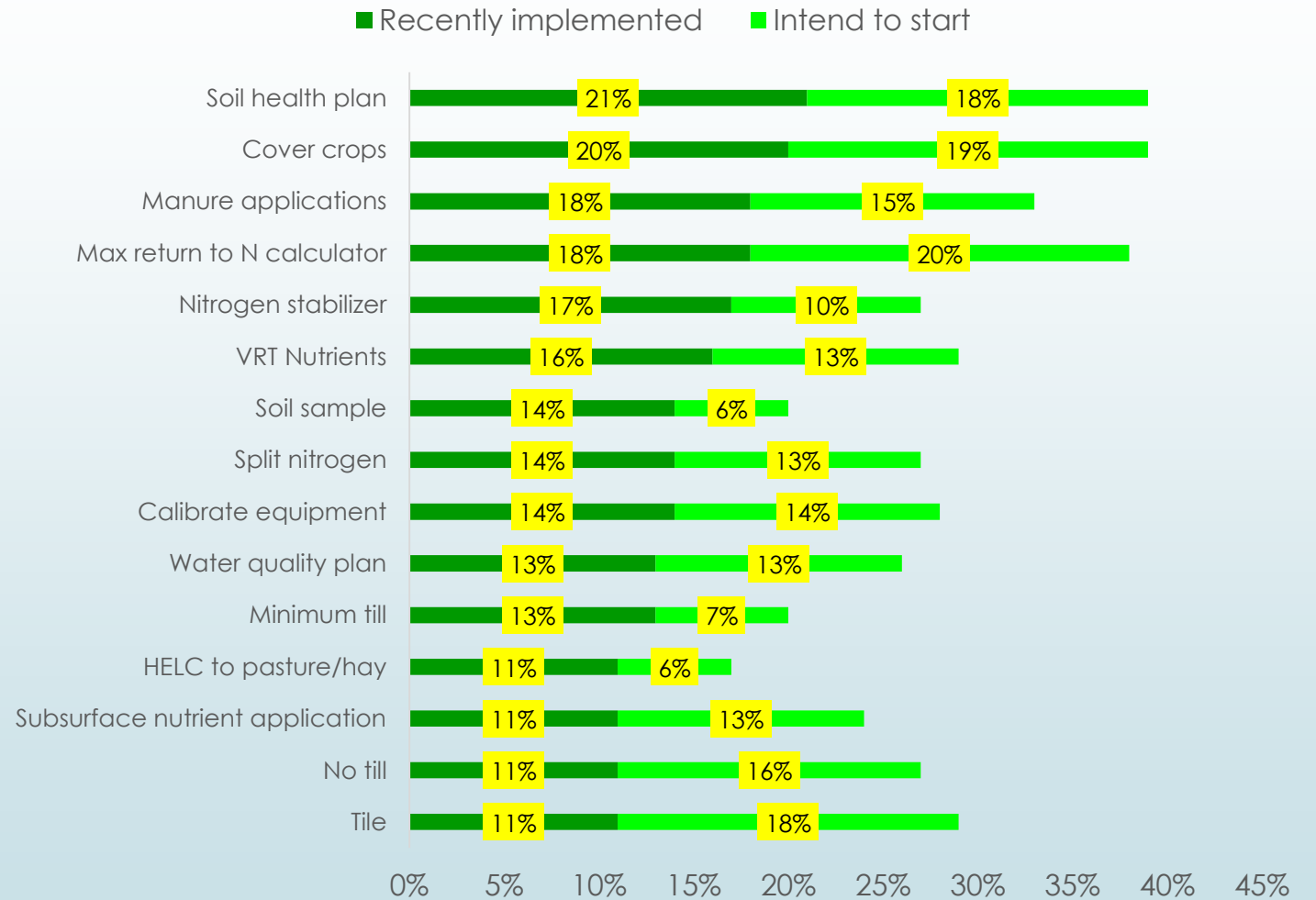


Farmers like soil health and water quality programs that are:

- **Outcome based:** Emphasis is on getting good things done with a minimum of hassle.
- **Consistent:** From county to county, farm to farm, in terms of funds available, requirements to participate in the program, assistance offered to each farmer.
- **Fair:** Available to all farmers from the smallest to the largest, most advanced to least advanced.
- **Knowledgeable:** Administered by people who know what they are doing, can offer expertise to on-farm situation, with agricultural backgrounds.
- **Active:** Staff are out in the field, making things happen, not stuck behind a desk filling out paperwork.
- **Streamlined:** Less paperwork, more activity, with emphasis on results and implementation.
- **Practical:** Projects meet objectives, implemented in the severest areas first, are designed to meet objectives at the lowest cost, so that more funds are available for more projects.
- **Educational:** The program helps farmers learn more about how to implement soil health and water quality measures. It may facilitate farmer-to-farmer education and interaction.
- **Continually rewards good actions:** Programs right now graduate farmers out of programs after they have done so much. These farmers would continue to do more if they were offered the same opportunities available for farmers who have done nothing.

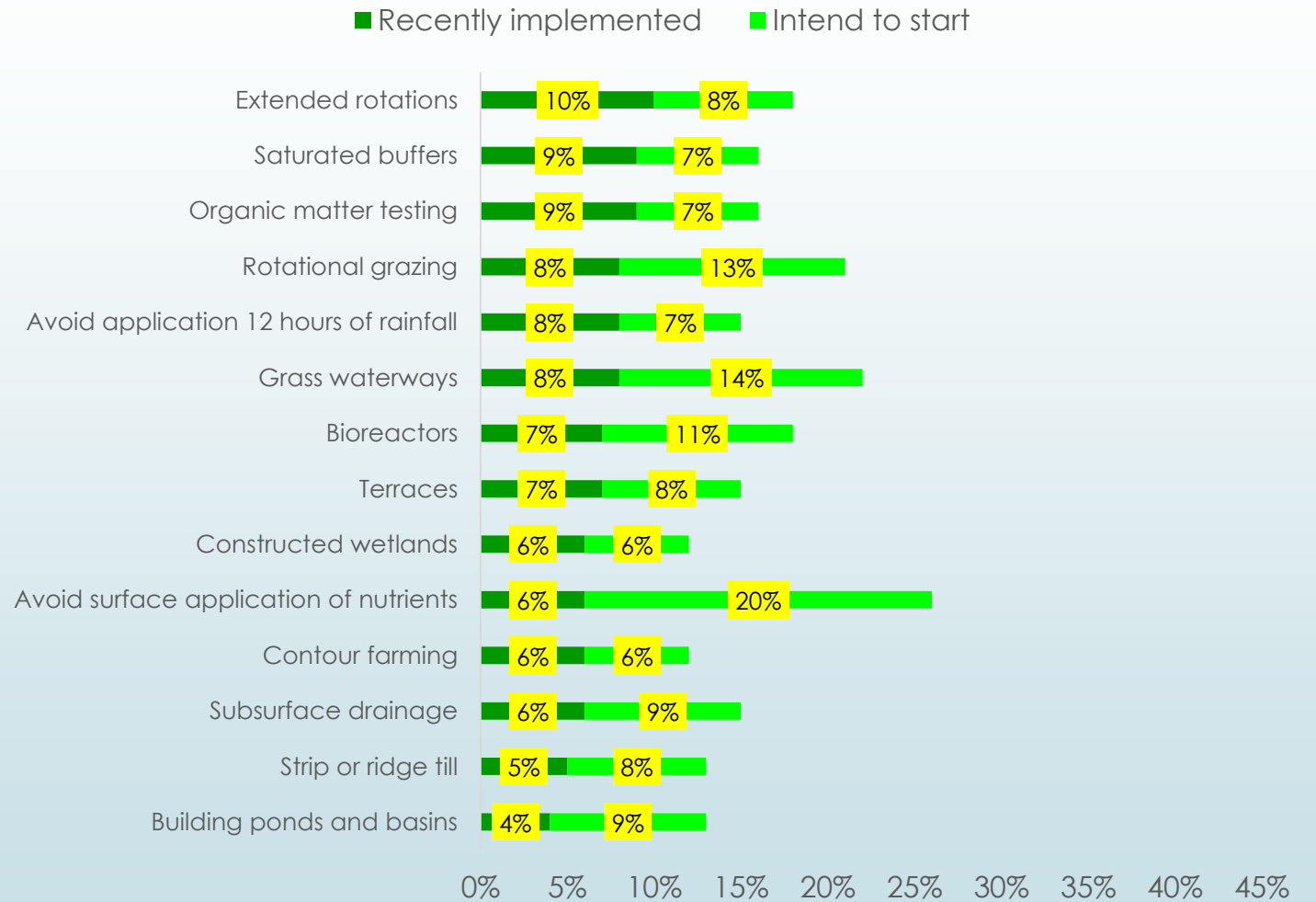
Growers continue to implement conservation practices, and intend to do more

New conservation practices



As better ways to enhance soil health emerge, growers adopt those that fit

New conservation practices



Can ASA and WFF tip the scales towards a win for all?

Many practices considered ideal are simply beyond the financial means of growers, and some have unintended consequences that can rob profits for years.

Examples

Cover crops

Wheat in rotation

Too many hoops for farmers

It is important that ASA and WFF choose to promote practices that have long-term economic sustainability. Research and education can help hone practices to be win-win-wins, for the environment, the farmer and the future.

ASA and WFF opportunities for university and farmer-led awareness and education

Cover crops are supposed to increase yields and soil health, but implementation has not had consistent success...in some instances costing up to 10 bu./acre in soybean yield. Yet some farmers say they are consistently more profitable because of cover crops—how can the secrets of what they are doing be shared with a larger farm population?

Including wheat in a corn/soybean rotation is unfeasible for many, not only because it causes financial losses, but because it can introduce disease and weeds into a field, and in many locations, there is no where to take it to market. What other practices might have the same benefit without the financial loss?

Government red tape and regulations regarding improvements such as waterways can increase the cost of implementation 6 to 8 times of a practical farmer-centered approach. Can ASA and WFF work with the NRCS to become more consistently farmer friendly?

The best communications are personal and personalized for each farm

The need identified by farmers is not better communications, but better information. They are each struggling on their own, and encountering many problems, from yield drag to new weeds and too much water.

The amount of expertise required to communicate with farmers and create good additional actions on their farm means is an opportunity for ASA and WFF to amplify the efforts of the NRCS.

Farmers trust other farmers the most. Sharing success stories is the most appealing way to spread information.

What practices are easiest to promote?

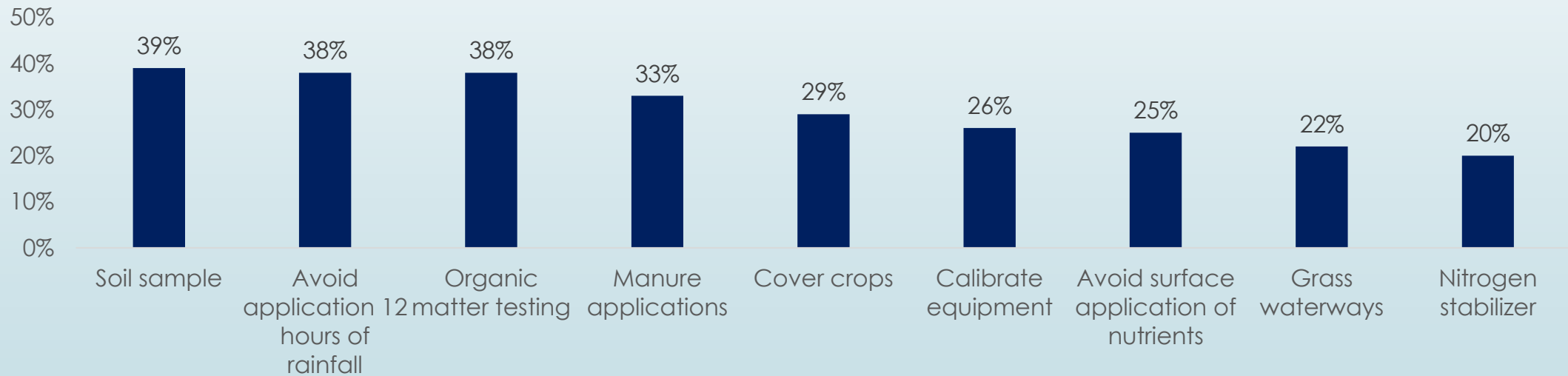
Target practices that farmers find the most feasible to implement with education and awareness.

29



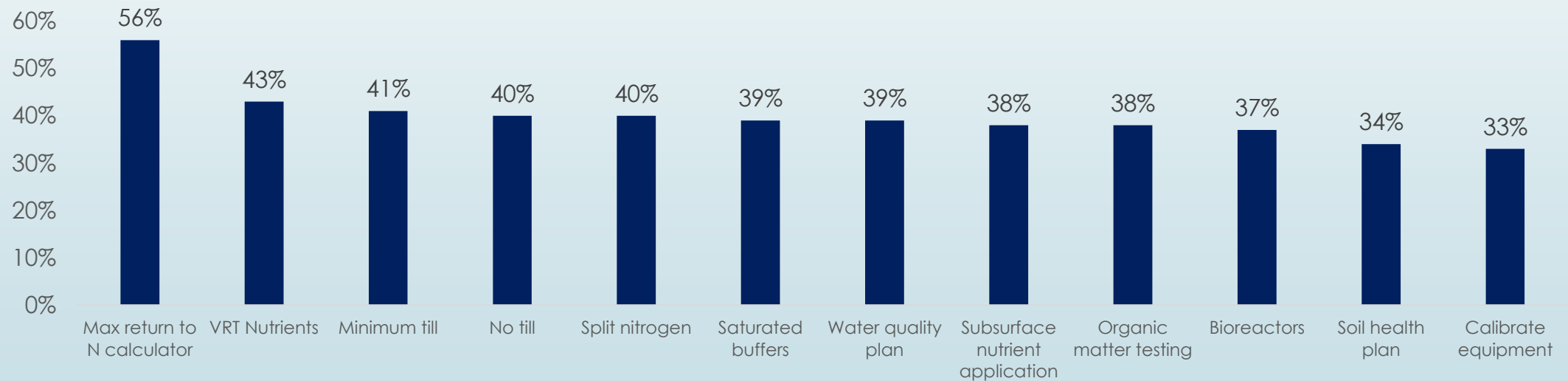
Soil sampling, not applying before rain, manure application lead potential list

Top 9 most feasible practices among those not currently doing them



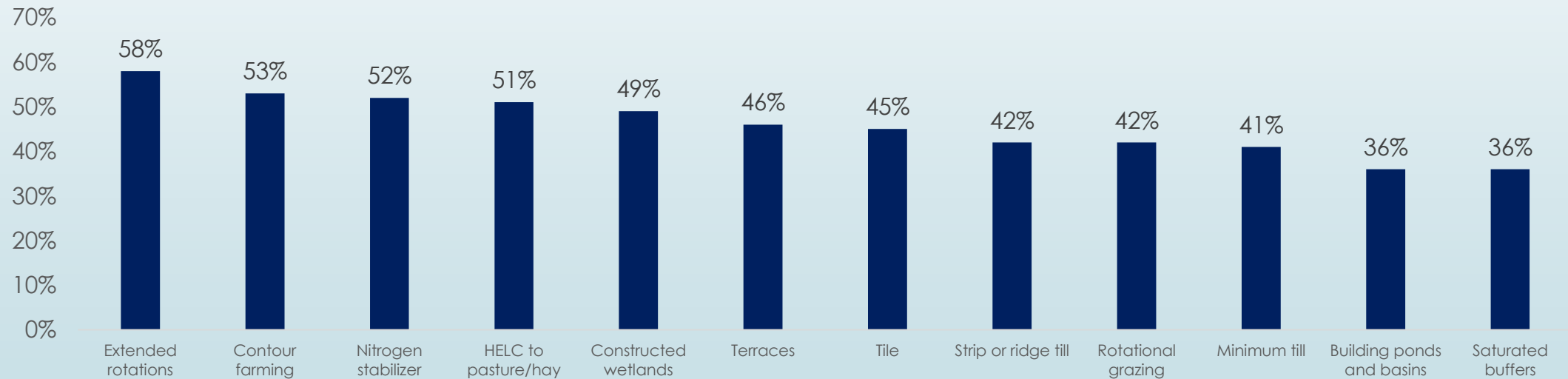
More education can help implement these practices among more growers

Top 12 practices that require more knowledge to implement



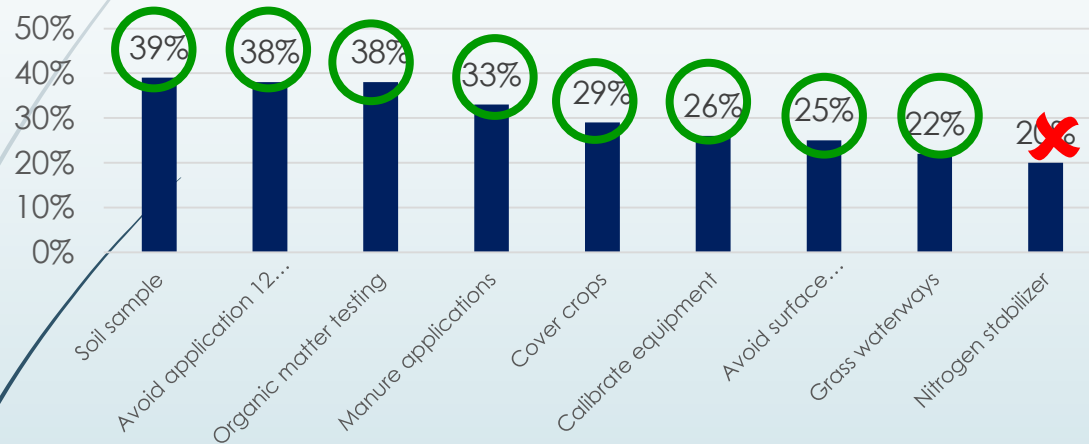
Due to poor or negative profitability, these practices will likely rarely be implemented

Top 12 practices that require more payback/profit to implement

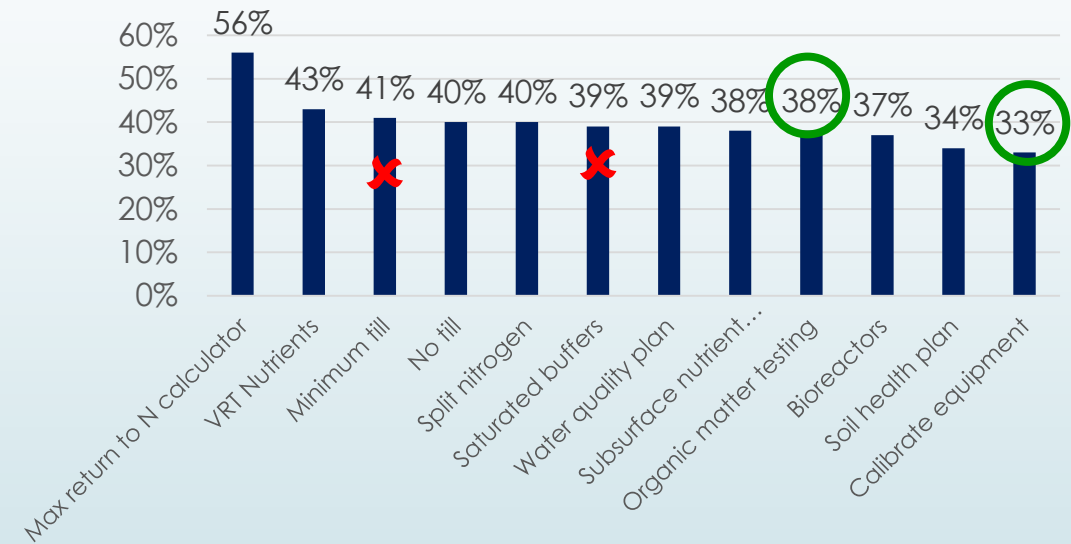


Isolating feasible and cost-effective practices that require more knowledge

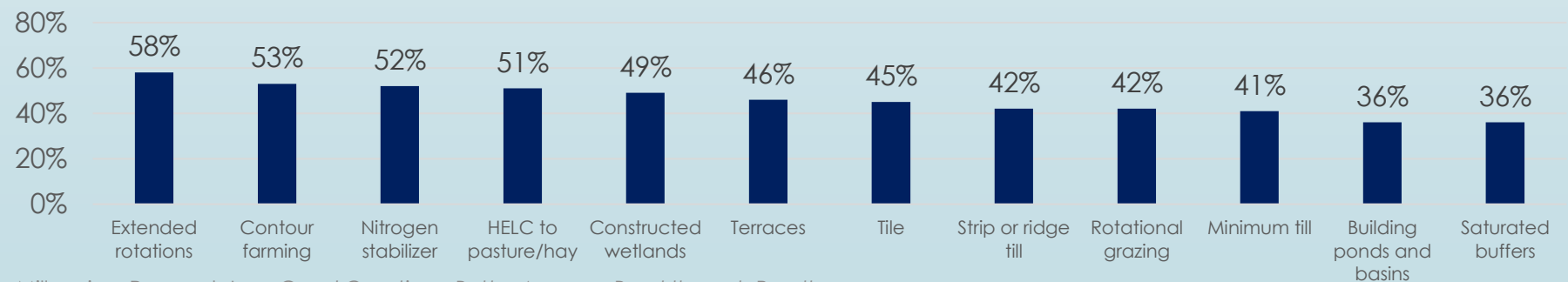
Top 9 most feasible practices among those not currently doing them



Top 12 practices that require more knowledge



Top 12 practices that require more payback/profit to implement



Eight of the nine most feasible practices do not have profit loss as a limiting factor for many farmers.

Early awareness and education efforts should be directed at soil testing, proper application timing and equipment calibration, as these are deemed feasible, without a lot of need for education and not limited by lack of payback.

Besides money, time and expertise, soil health practices need a “cool factor”



Respondents who engage in practices specifically for soil health are often “ribbed” about it by their neighbors. “How are you going to pencil that out?” is a common jib.



Bankers often discourage spending extra money on cover crops because of the expense, and potential negative consequences on the bottom line.



Older farmers and large-scale operators sometimes stick to tillage practices that harm the soil. These may be targeted with special programs.



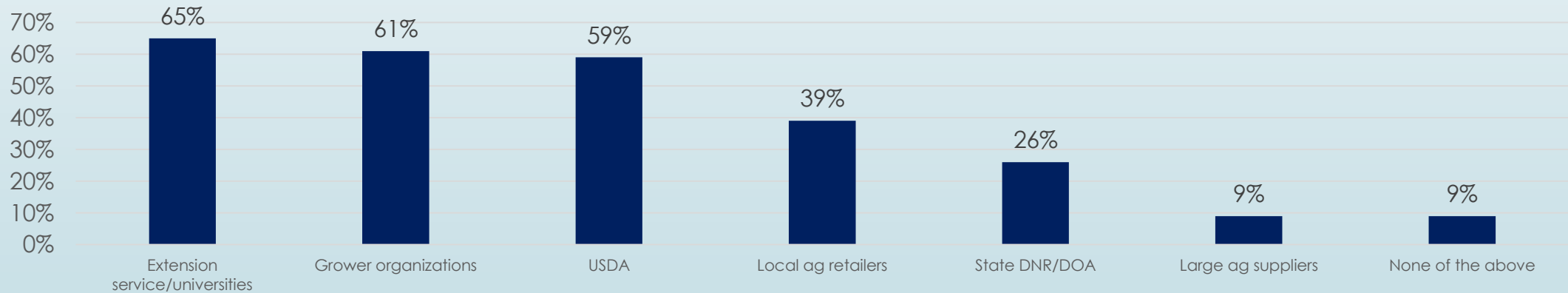
Soil health itself is in its infancy, so creating the right image is crucial to continued and self-sustaining growth.



ASA and WFF have the reach, resources and reputation to promote a change in thinking with the research and expertise to encourage adoption.

ASA is perfectly positioned. Land grant universities and **grower organizations** are viewed as most credible sources of conservation information

Which organizations do you trust to provide credible and reliable information to help you implement soil and water stewardship practices?



Conclusions and Recommendations



Grower organizations such as ASA have an excellent position among growers for reputation and credibility which make it very important to provide exceptional quality advice and assistance to growers who wish to improve or increase their land and water stewardship.



More knowledge of implementation is a critical barrier for many on such measures such as soil health and water quality plans, but funding and payback is also necessary for wide-scale implementation to occur.



Livestock farmers who produce grain are a great opportunity, as they tend to have fewer practices in place, and are more likely to have designated land.



Creating a three-prong approach in cooperation with Land Grant Universities and the Walton Family Foundation would be a winning combination in delivering high quality, credible information to growers.



Helping publicize the available USDA programs might be a great first step, as many growers are unaware of the tools and programs available through many of them.

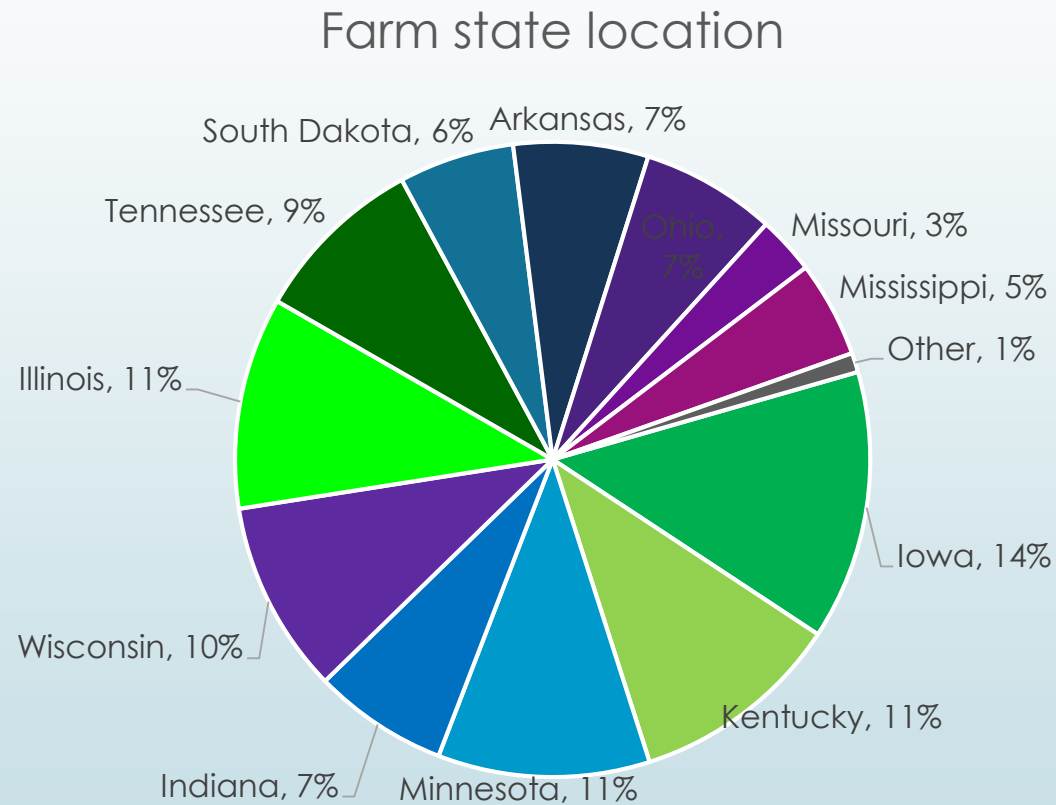
Demographics

Demographics paint a picture of educated farmers in their prime, with more than half farming at least 1,000 acres. The farm has been in their family for more than 80 years, and 70% have someone to take over the reins.

38



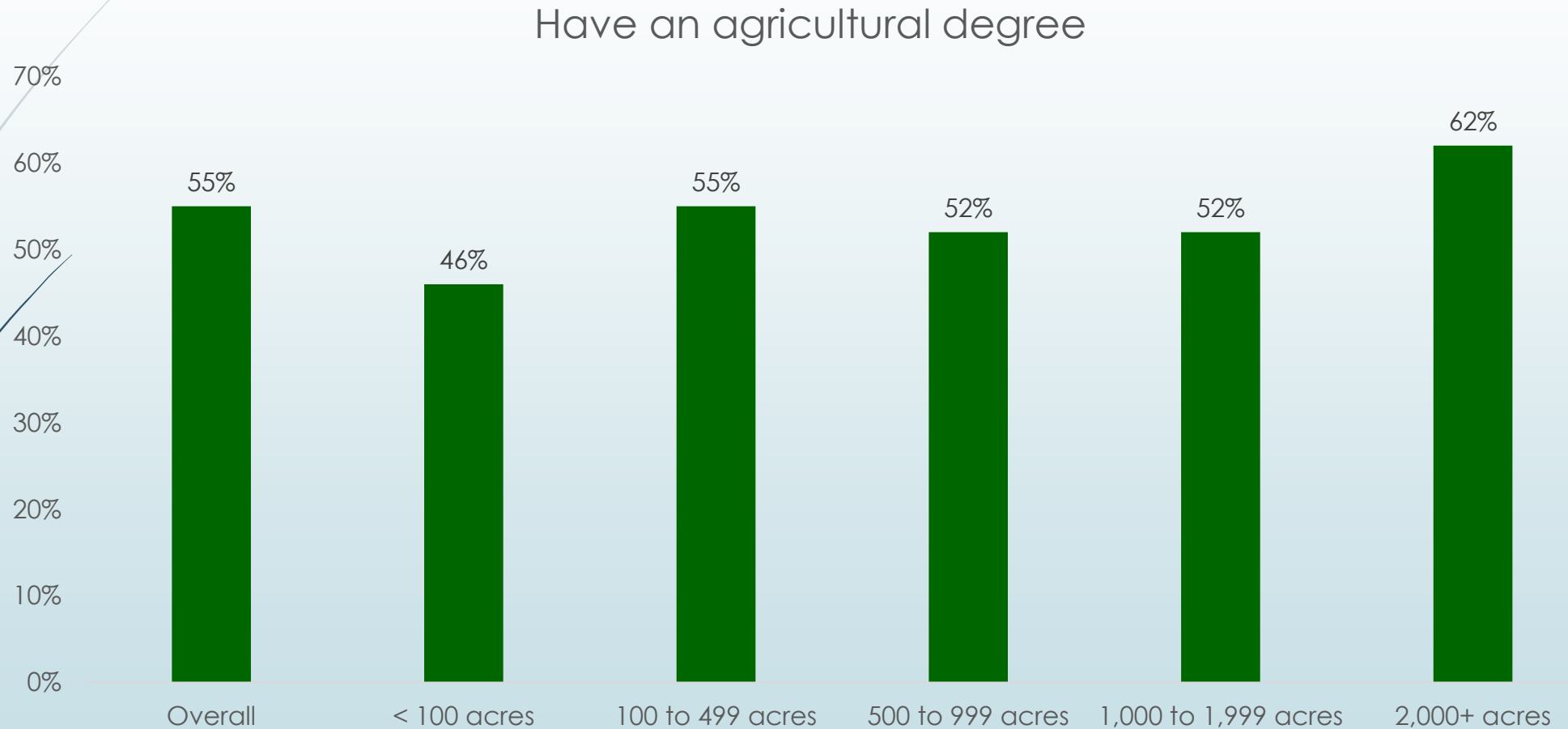
The sample was weighted to reflect the universe by state and soybean acres



N=440

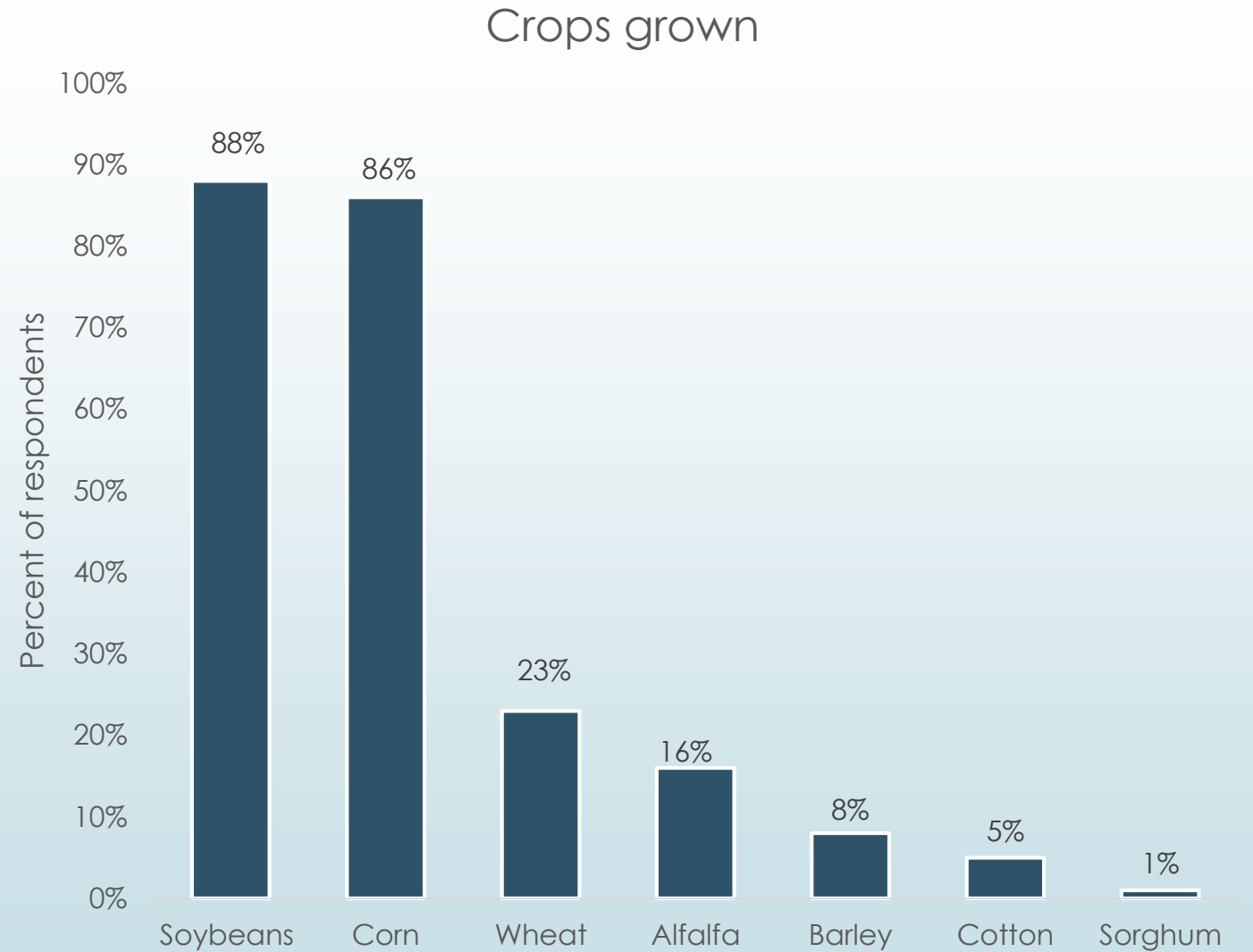
This state allocation represents the 2017 USDA Census of Agriculture distribution.

The largest operations have the most college-educated growers



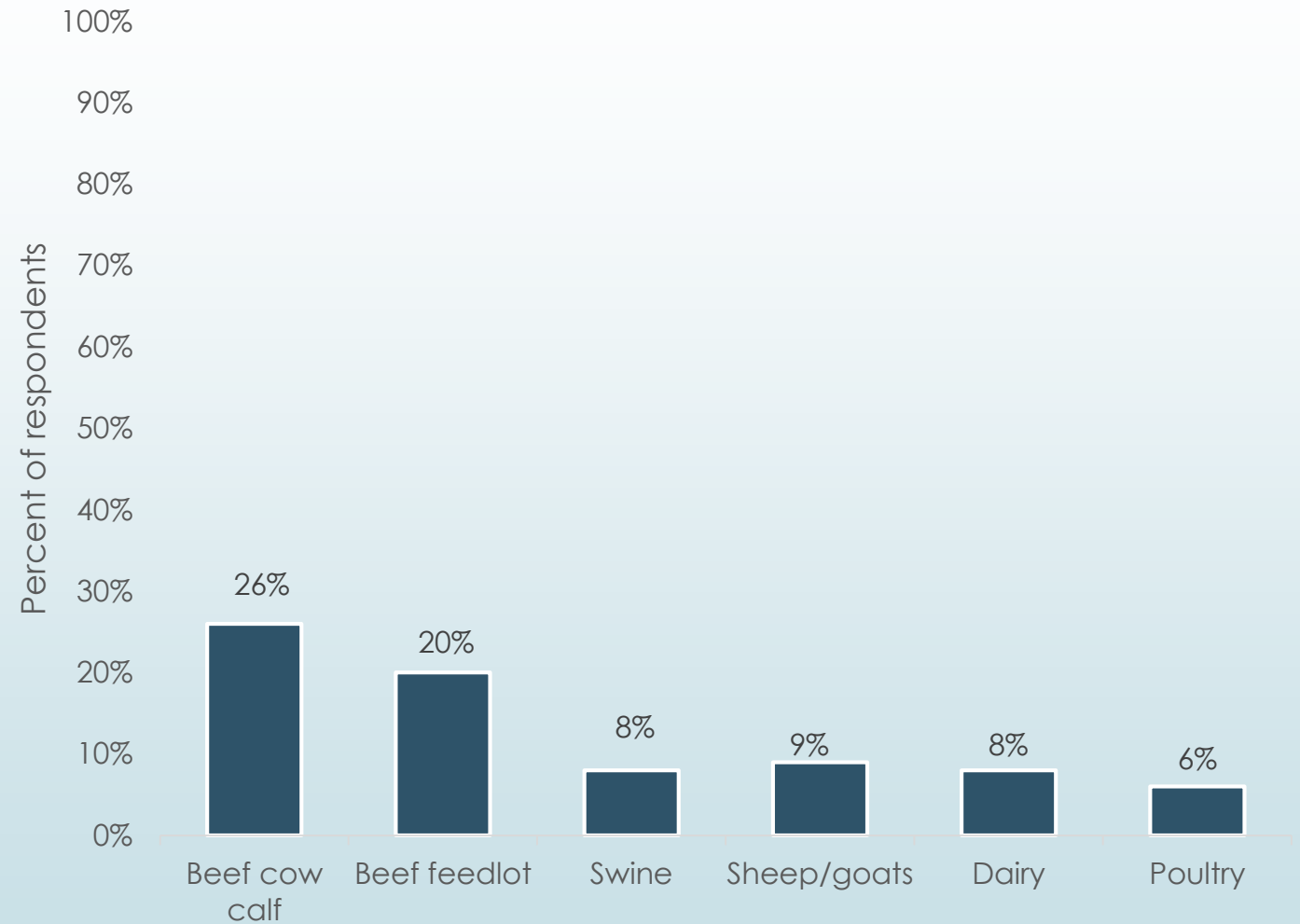
N=440

The majority of respondents grow soybeans and corn, other crops trail

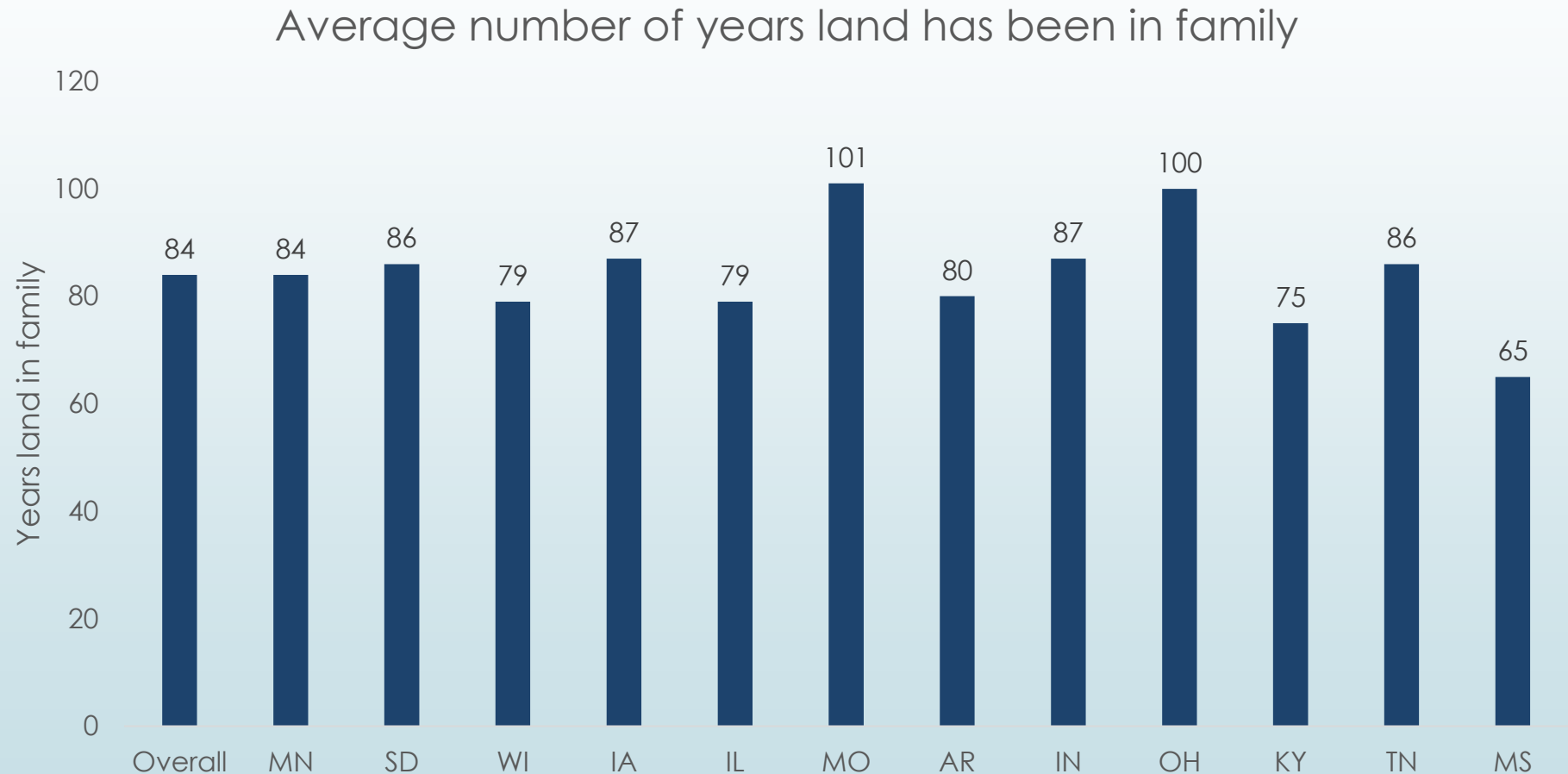


Livestock production varies significantly by state, overall 56% have no livestock

Type of livestock raised

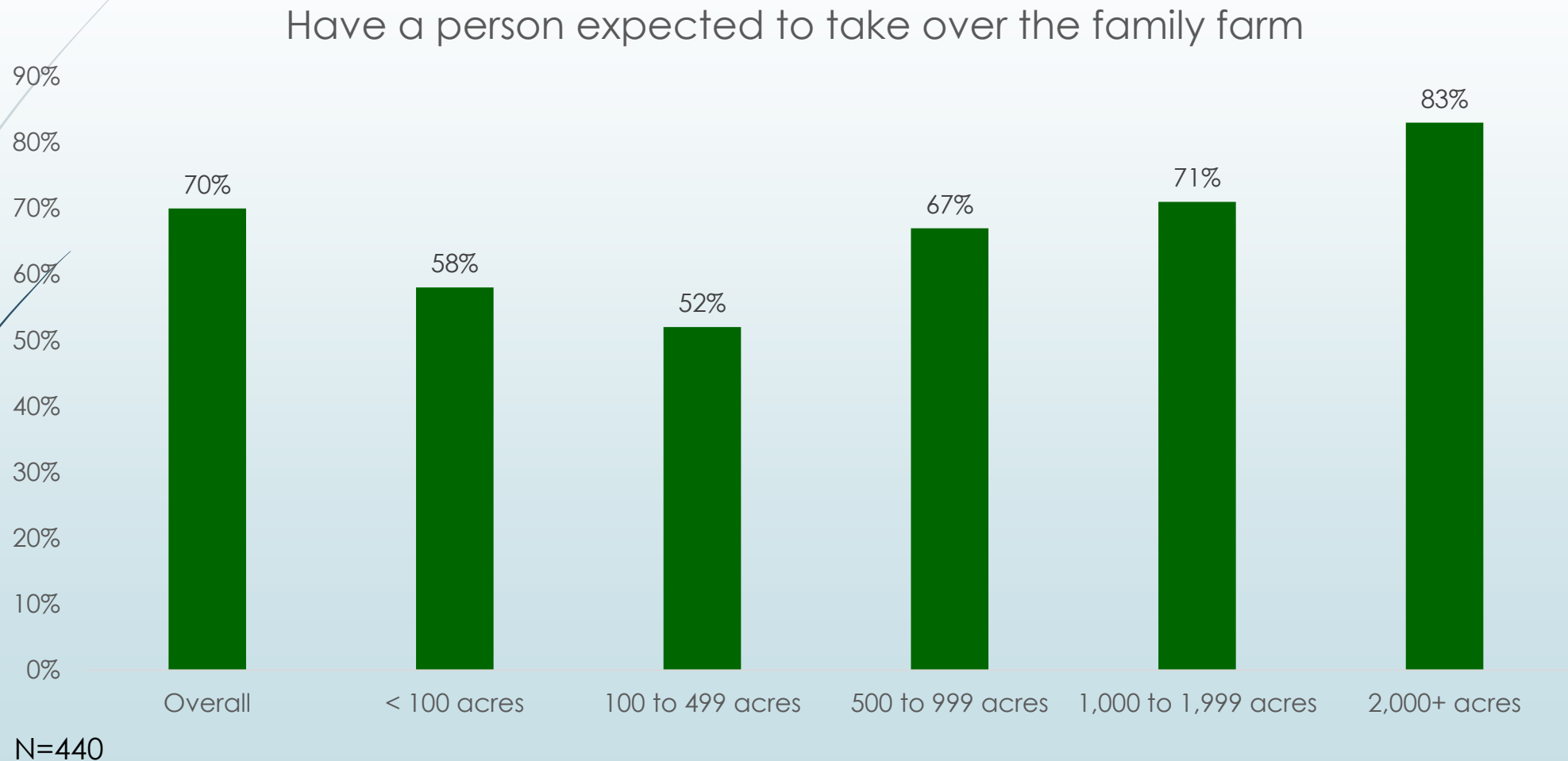


At least part of the farm has been in the family for an average of 84 years



N=440

As farm size increases, so does the presence of an operation successor





Thank you!

Additional information is available from this study. This report is an overall summation of the findings.



Appendix

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Study background and objectives

WFF wants to promote voluntary soil and water health efforts among growers

- ▶ ASA has been approached by the Walton Family Foundation (WFF) about their interest in partnering on a program to **build soil health and improve water quality through voluntary conservation practices**. The Walton Family Foundation is led by the children and grandchildren of Sam and Helen Walton. They work in three areas: improving K-12 education, protecting rivers and oceans and the communities they support, and investing in the home region of Northwest Arkansas and the Arkansas-Mississippi Delta. A core component of their focus is improving water quality in the Mississippi River Basin.
- ▶ WFF was a key driver in the creation of the Soil Health Partnership, led by NCGA.

ASA staff have been working to develop a mid-term (6-9 months) grant application that would **lead to long-term work to encourage greater adoption of on-farm conservation practices**.

- ▶ Farmers need better information and assistance to turn in-field conservation practices into on-farm profitability.
- ▶ **This initial research would measure current practices and pinpoint areas where the partnership has the most ability to affect positive change.**

The study had four main objectives:

1. Measure current soil and water health practices
2. Understand what drives growers to change
3. Understand the barriers for growers to change
4. Identify strategies for increased adoption of soil and water health practices



Thank you!

Additional information is available from this study. This report is an overall summation of the findings.