Your participation in this research study will help us to better understand how to design trustworthy artificial intelligence and decision support tools that crop advisors can use. We hope the results will help technology developers and agronomists understand crop advisors' perception of artificial intelligence-based decision support systems (AI-DSS). We greatly appreciate your help with this study.

As a token of our appreciation, you will be entered in a drawing and 30 respondents will be randomly selected to receive a $50 credit toward future online educational programs provided by the American Society of Agronomy.

Imagine comparing between artificial intelligence decision support systems (AI-DSS) that can help you decide what and when to plant, how much to irrigate & fertilize, and when to harvest. In the next five questions, you will have a choice between three AI-DSS that all use artificial intelligence, but they differ in their cost, accuracy, precision, and data ownership attributes.

Here, you face a choice between three slightly different configurations of these AI-DSS with respect to different levels of cost, accuracy, precision, and data ownership attributes. Which system would you prefer (Please choose only one option)?

	AI-DSS 1	AI-DSS 2	AI-DSS 3	None of these
Cost	Free	$30/acre/year	$80/acre/year	
Accuracy	70%	85%	95%	
Precision	Medium (10 X 10 meters)	High (3 X 3 meters)	Very High (5 X 5 centimeters)	
Data Ownership	Open to all	AI-DSS Company only	AI-DSS Company and you	

- AI-DSS 1
- AI-DSS 2
- AI-DSS 3
- None of these

Here, you face a choice between three slightly different configurations of these AI-DSS with respect to different levels of cost, accuracy, precision, and data ownership attributes. Which system would you prefer (Please choose only one option)?

	AI-DSS 1	AI-DSS 2	AI-DSS 3	None of these
Cost	Free	$10/acre/year	$80/acre/year	
Accuracy	70%	85%	99%	
Precision	Medium (10 X 10 meters)	High (5 X 5 meters)	Very High (10 X 10 centimeters)	
Data Ownership	Open to all	AI-DSS Company only	AI-DSS Company and you	

- AI-DSS 1
- AI-DSS 2
- AI-DSS 3
- None of these

Here, you face a choice between three slightly different configurations of these decision support systems with respect to different levels of cost, accuracy, precision, and data ownership attributes. Which system would you prefer? (Please choose only one option)

	AI-DSS 1	AI-DSS 2	AI-DSS 3	None of these
Cost	$2/acre/year	$30/acre/year	$60/acre/year	
Accuracy	70%	85%	90%	
Precision	High (5 X 5 meters)	High (5 X 5 meters)	Very High (10 X 10 centimeters)	
Data Ownership	AI-DSS Company and you	AI-DSS Company only	AI-DSS Company and you	

- AI-DSS 1
- AI-DSS 2
- AI-DSS 3
- None of these

Here, you face a choice between three slightly different configurations of these AI-DSS with respect to different levels of cost, accuracy, precision, and data ownership attributes. Which system would you prefer (Please choose only one option)?

	AI-DSS 1	AI-DSS 2	AI-DSS 3	None of these
Cost	Free	$30/acre/year	$60/acre/year	
Accuracy	70%	85%	90%	

Precision	Medium (10 X 10 meters)	High (5 X 5 meters)	Very High (10 X 10 centimeters)	
Data Ownership	Open to all	AI-DSS Company only	AI-DSS Company and you	

- AI-DSS 1
- AI-DSS 2
- AI-DSS 3
- None of these

Here, you face a choice between three slightly different configurations of these AI-DSS with respect to different levels of cost, accuracy, precision, and data ownership attributes. Which system would you prefer (Please choose only one option)?

	AI-DSS 1	AI-DSS 2	AI-DSS 3	None of these
Cost	$4/acre/year	$10/acre/year	$80/acre/year	
Accuracy	80%	85%	99%	
Precision	High (5 X 5 meters)	High (5 X 5 meters)	Very High (10 X 10 centimeters)	

Data Ownership	AI-DSS Company and you	AI-DSS Company only	AI-DSS Company and you	

- ○ AI-DSS 1
- ○ AI-DSS 2
- ○ AI-DSS 3
- ○ None of these

What are your areas of specialization? (select as many apply)

- ☐ Nutrient Recommendation (Fertilizer Application etc.)
- ☐ Pest & Disease Management
- ☐ Seed Selection
- ☐ Tillage Practices
- ☐ Crop Rotation & Variety Selection
- ☐ Cover Crops
- ☐ Other

Artificial intelligence (AI) is present wherever machines can perform tasks, using high levels of independent intelligence, that were typically done by humans. How much do you agree or disagree with the following? (Please select one option for each row)

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree	N/A
I have a good understanding of what artificial intelligence is	○	○	○	○	○	○
Agricultural products and services using artificial intelligence have profoundly changed my work life in the past 3-5 years	○	○	○	○	○	○
Agricultural products and services using artificial intelligence simplifies my professional work	○	○	○	○	○	○
Agricultual products and services using artificial intelligence have more benefits than drawbacks	○	○	○	○	○	○
I am aware of the types of agricultural products and services that use artificial intelligence	○	○	○	○	○	○
Agricultural products and services using aritificial intelligence will profoundly change my work life in the next 3-5 years	○	○	○	○	○	○

Precision farming employs data-based agricultural technologies and practices and localized farm data to generate site-specific farm recommendations. The following are potential concerns related to use of precision farming technologies.

Please rate your agreement or disagreement with the following statements:

	Strongly Disagree	Disagree	Agree	Strongly Agree	Do not know
The cost of purchasing and operating precision farming technologies is too high	○	○	○	○	○
The cost of maintaining precision farming technologies is too high	○	○	○	○	○
Interpreting and making decisions takes too much time	○	○	○	○	○
Precision farming tools lack a user-freindly interface	○	○	○	○	○
Farmers' knowledge will become less important as we rely more on information provided by precision farming technologies	○	○	○	○	○
I am not sure I am using the data I collect as effectively as possible to advise farmers	○	○	○	○	○
I am unsure whether to trust recommendations made by precision farming technologies	○	○	○	○	○

	Strongly Disagree	Disagree	Agree	Strongly Agree	Do not know
I still need to field check the recommendations made by the precision farming technologies	○	○	○	○	○
Precision farming technologies are only beneficial for big farms	○	○	○	○	○
There is not enough clarity and transparency about data collection terms and conditions	○	○	○	○	○

	Strongly Disagree	Disagree	Agree	Strongly Agree	Do not know
I am concerned about data being harvested by corporations without consent	○	○	○	○	○
I am concerned about risks of data privacy related to precision farming technologies	○	○	○	○	○
I am concerned that corporations will use data for their benefit and not farmers'	○	○	○	○	○
I am concerned that data from precision farming technologies could be used for regulatory purposes	○	○	○	○	○

In the following questions, we will ask you about your interaction with agricultural decision support systems. Decision support systems are software and hardware-based tools that gather and analyze farm-level environmental data and provide recommendations to producers about when and where to plant, spray, and harvest.

Please indicate the degree to which you agree/disagree with the following statements.

	Strongly Disagree	Disagree	Agree
I like to occupy myself in greater detail with Ag decision support systems	○	○	○
I like testing the functions of new Ag decision support systems	○	○	○
I predominently deal with Ag decision support systems because I have to	○	○	○
When I have a new Ag decision support system in front of me, I try it out intensively	○	○	○
I enjoy spending time becoming acquainted with a new Ag decision support system	○	○	○

	Strongly Disagree	Disagree	Agree
It is enough for me that an Ag decision support system works; I don't care how or why	○	○	○
I try to understand how an Ag decision support system exactly works	○	○	○
It is enough for me to know the basic functions of an Ag decision support system	○	○	○
I try to make full use of the capabilities of an Ag decision support system	○	○	○

Approximate average farm size owned and rented by farmers whom you give advice (in acres)

Approximate years of experience as a crop advisor

What is your highest level of education completed?

- ○ Less than high school
- ○ High school diploma/GED
- ○ Some college
- ○ College degree
- ○ Advanced degree

What is your gender?

- ○ Male
- ○ Female

- Non-binary/third gender
- Prefer not to say

What is your race or ethnicity?

- American Indian/Alaska Native
- Asian
- Black/African American
- Hispanic/Latino
- Middle Eastern or North African
- Native of Hawaiian/Pacific Islander
- Native of Indian Subcontinent
- Other
- Prefer Not to Answer
- Two or More Ethnicities
- White

What is your income range?

- Less than $25,000
- $25,001 - $49,999
- $50,000 - $74,999
- $75,000 - $99,999
- $100,000-$150,000
- $150,001 and above
- Do not wish to say

What is your employment status?

- Self-employed as an independent contractor

- [ ] Employed by an agricultural establishment directly (e.g. a farm / forest operation)
- [ ] Employed by an agribusiness company
- [ ] Other _____

What is your zip code? (If outside the United States of America. Please write the country name)

What is your age?

- [ ] 18-24
- [ ] 25-34
- [ ] 35-44
- [ ] 45-54
- [ ] 55-64
- [ ] 65 or older