

# Cropping Decisions Survey

A Survey by Howard G. Buffett Foundation and Conservation Technology Information Center

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Report produced by Conservation Technology Information Center  
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The Howard G. Buffett Foundation and the Conservation Technology Information Center (CTIC) surveyed agricultural producers from across the country about adoption of cover crops and fall application of anhydrous ammonia in two separate surveys. More than 1,700 people answered the surveys, and we received 1,379 completed surveys.

## Methodology

*Corn and Soybean Digest* issued an email June 24, 2010, to 45,860 subscribers inviting them to answer questions about their agricultural operations (email included in Appendix A). These subscribers, who predominantly farm 250 or more acres of corn and/or soybeans, agreed to receive marketing materials from the magazine and read the *Digest* online. In the email invitation, CTIC offered respondents who completed surveys a chance to win one of several prizes. CTIC received 719 responses by July 14, 2010.

*Corn and Soybean Digest* issued a second request email to non-responders on July 15, 2010.

CTIC also announced the survey on its web site, [www.ctic.org](http://www.ctic.org), and in an email, which included a link to the online version of the survey, distributed to the CTIC mailing list (~5,000) and the Conservation Agriculture Systems Alliance (60).

A total of 1,379 completed surveys – 809 completed cover crop surveys and 570 completed fall application surveys – were received and analyzed for this report.

This report presents the results of the cover crop survey.

# Cover Crop Survey Participants

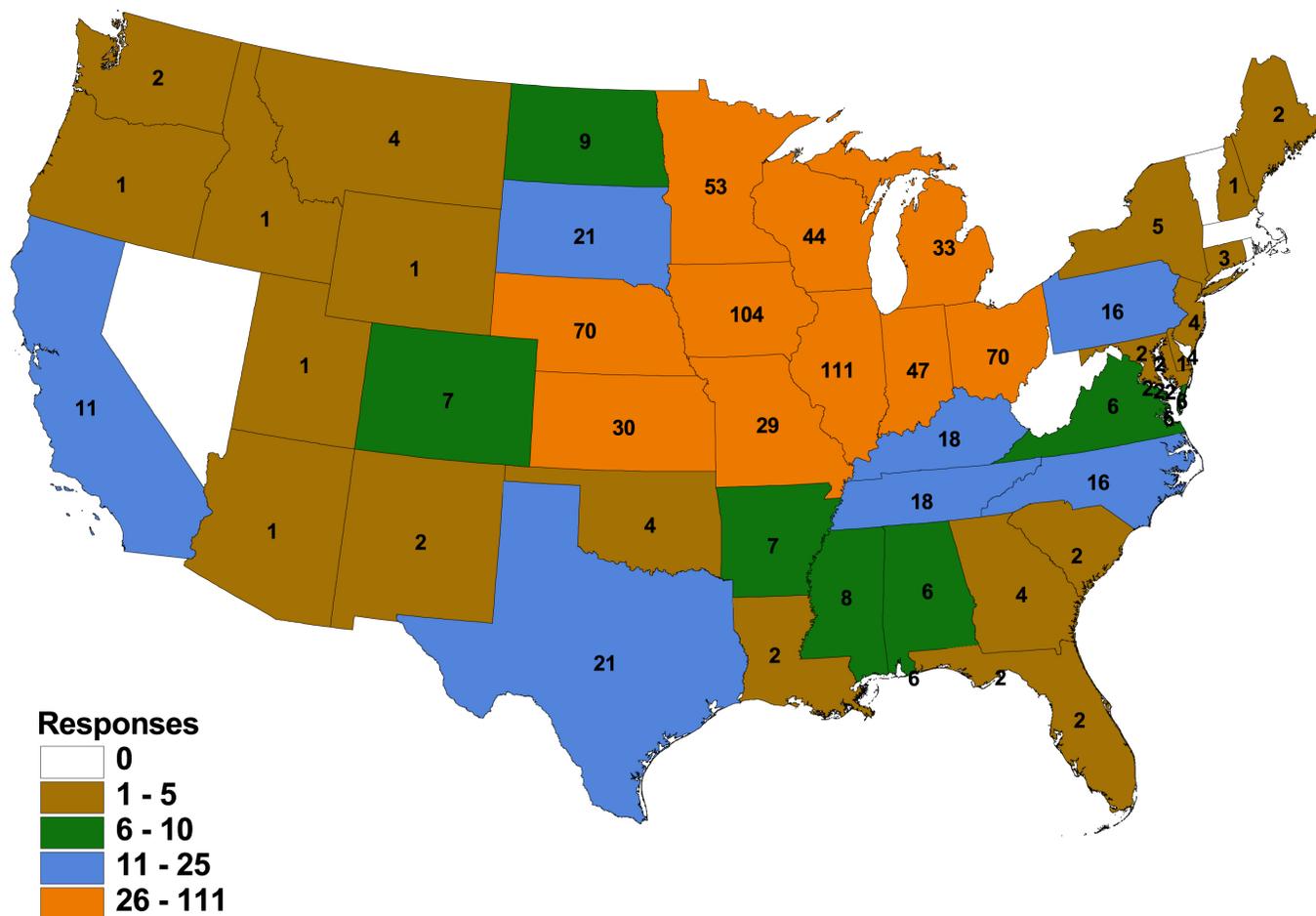


Figure 1.  
Distribution of participants in the cover crop survey.

## CROPPING DECISIONS - COVER CROPS

### Participant Background

Survey participants live across the country – from Alabama to Wyoming – but the majority of responses came from the Midwest. The heaviest concentration of responses occurred in Illinois (111), Iowa (104), Nebraska (70), Ohio (70), Minnesota (53), Indiana (47) and Wisconsin (44). See Figure 1 on page 2.

Nearly all participants are male (96.2%) and between the ages of 30 and 68, although the total range of ages is from 20 to 89. Sixty-three percent of participants hold an associate/technical degree or higher.

The survey sample represents approximately 1,149,533 acres (484,414 owned and 665,119 rented). The average number of acres farmed by participants who farm acres they own is 712 acres. The average number of acres farmed by participants who farm rented acres is 1,007 acres. Most participants own or rent farms of 100 to 499 acres. Figure 2 shows the number of participants with each range of acreage, from 1 acre to more than 15,000 acres. Nearly one-third of participants earn \$500,000 or more in annual farm sales, and 26% earn \$100,000 to \$249,999.

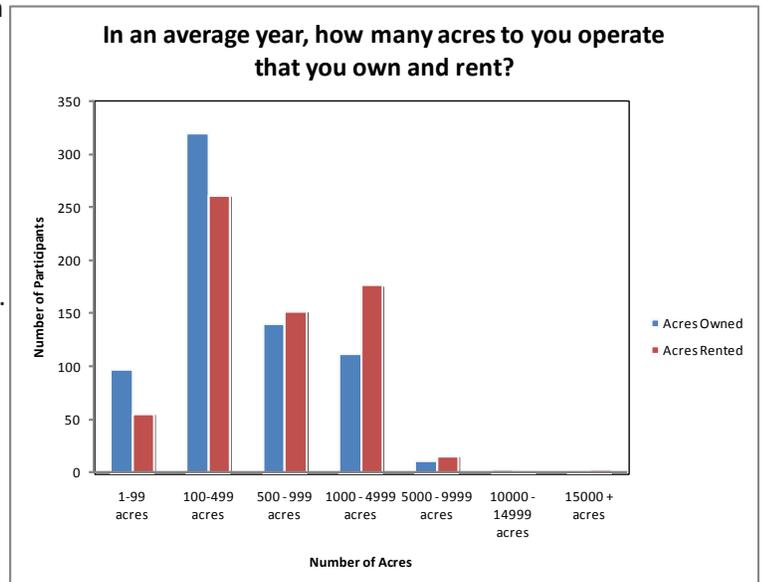


Figure 2. Acres owned or rented by survey participants.

Nearly half of participants do not use a GPS guidance system. Of those that do, +/- 10-inch accuracy (SF1 or others) was the most popular (21%).

Nearly all – 93% – participants use a computer for internet searches, 72% use a computer to track farm expenses, 61% use a computer to track farm inputs and 50% track farm yields on a computer. Nearly one third of participants (28%) use social networking sites. Only 1% of participants do not use the computer for anything. Other uses mentioned by participants include: tracking markets, monitoring weather, farm accounting, record keeping and email.

## Results

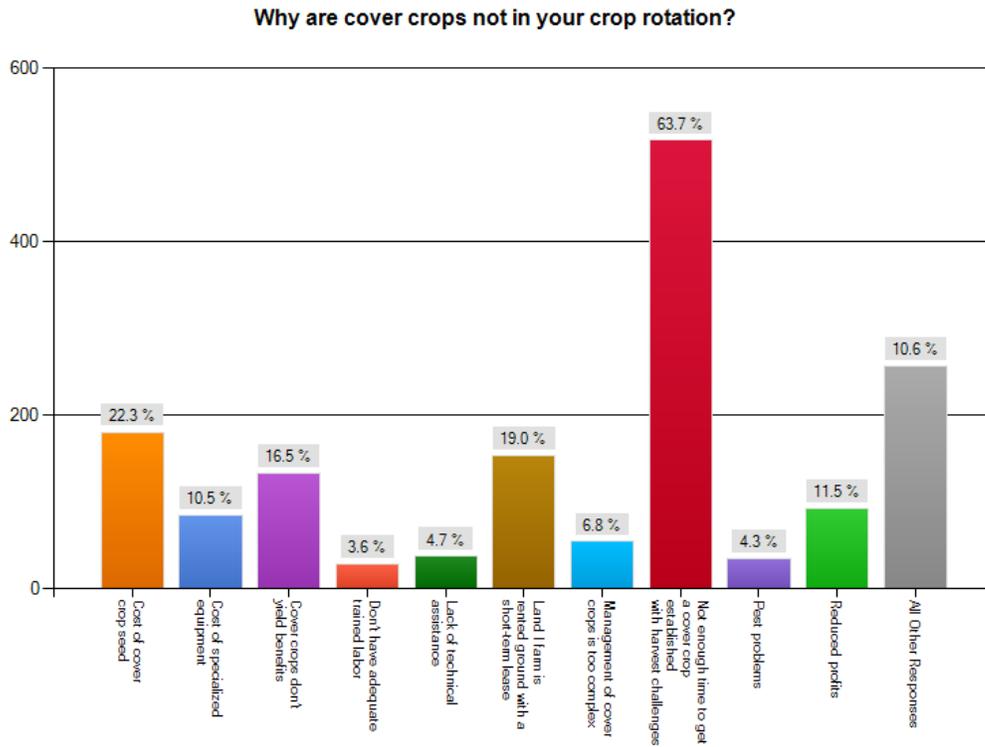
### Use of Cover Crops

Most survey participants (63%) have never used cover crops. Another 17% used cover crops once, but have not used cover crops in more than three years. Twenty-one percent of participants use cover crops every year or every two or three years.

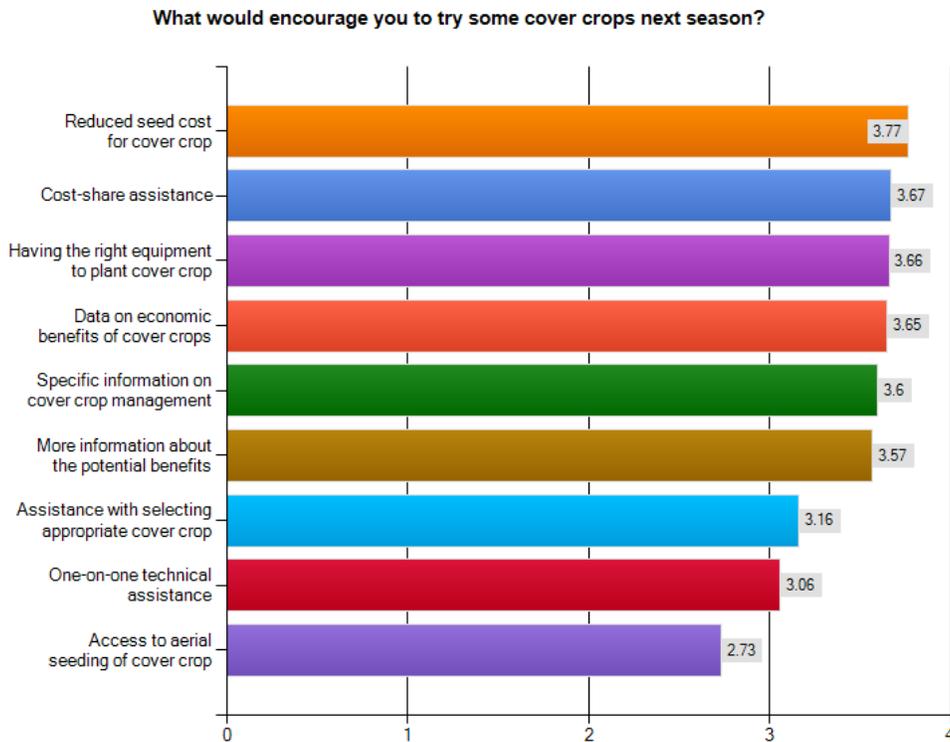
Are participants who never used or used cover crops once willing to try cover crops on a few acres? 31% are somewhat willing, 26% are willing, 18% are very willing, 17% are probably not willing and 9% are not willing.

Participants who never used or used cover crops once give the following as the top three reasons for not using cover crops are (N=812): not enough time to get a cover crop established with harvest challenges (64%), cost of cover crop seed (22%) and land farmed is rented ground with a short-term lease (19%). (See Figure 3.) Written comments concerning reasons for not using cover crops include lack of moisture (2%), cover crops not needed in their no-till or permanent cover operations (2%) and northern climate (1%).

Participants who never used or used cover crops once believe the following are the benefits of using cover crops (N=781): decrease soil erosion (74%), increase soil organic matter (65%) and improve soil quality (56%). Nearly 50% of participants feel that cover crops are a good stewardship practice. Some no-till farmers noted that the same benefits can be achieved with no-till.



**Figure 3.**  
Reasons for not using cover crops.



**Figure 4.**  
Factors that would encourage participants to try cover crops.

Those participants very willing to try cover crops also indicate increased water infiltration and scavenging or fixing nitrogen for the following crop as benefits.

Participants who never used or used cover crops once (N=709) rate options on the likelihood that the option would encourage them to try cover crops next season. Figure 4 presents the results on a Likert scale, which is based on ordinal numbers. One number is relatively higher/lower than the next; the higher the rating average, the more positive the total response. Participants rate reduced seed cost, cost-share assistance, having the right equipment and data on economic benefits as the most compelling reasons to try cover crops.

Participants willing to try cover crops rate aerial seeding as neutral or important and rated assistance with selecting appropriate cover crop as important. Participants probably not willing to try cover crops rate those options as not important.

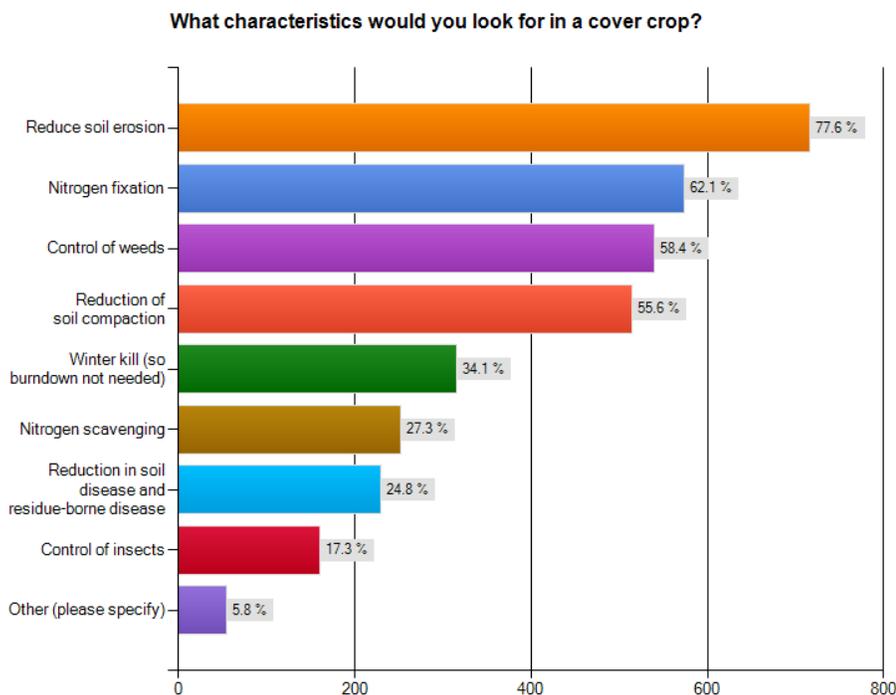
Participants very willing to try cover crops rate one-on-one technical assistance as important while participants somewhat willing, willing and probably not willing rate one-on-one technical assistance neutral. Reduced seed cost for cover crop is very important to those very willing to try cover crops, but important to participants willing, somewhat willing and probably not willing to try cover crops.

### Characteristics of Cover Crops

Participants (N=924) look for a cover crop to reduce soil erosion (78%), fix nitrogen (62%), control weeds (58%) and reduce soil compaction (56%). See Figure 5. Other characteristics desired include increasing organic matter, moisture retention providing forage, dry soil faster for planting, providing something easy to plant into, additional revenue, increase earthworm populations, managing saline, build carbon, reduce water consumption, grow biomass, remove P from problem areas and easy to control with herbicide.

The majority of those currently using cover crops and those that do not responded similarly – the most common response for both was reduce soil erosion. Those that do not use cover crops value winter kill (so burndown not needed) and control of insects.

Participants very willing to try cover crops say reduction of soil compaction and reduction of soil erosion are the top desired characteristics, following by nitrogen fixation and control of weeds.



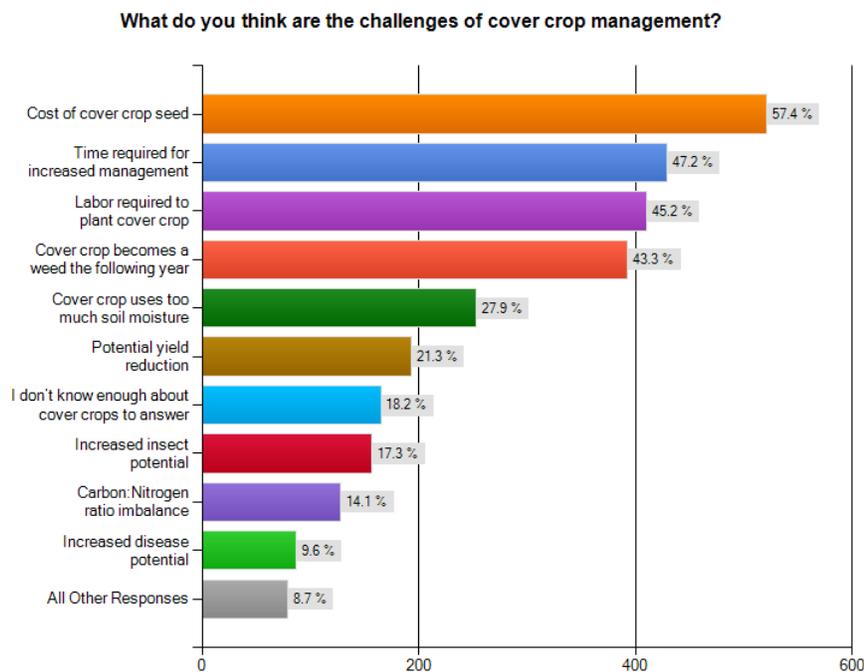
**Figure 5.**  
**Desired characteristics of cover crops.**

## Challenges of Cover Crop Management

Participants (N=908 ) identify the challenges of cover crop management as: cost of cover crop seed (57%), time required for increased management (47%), labor required to plant cover crop (45%) and cover crop becomes a weed the following year (43%). See Figure 6. Other responses describing challenges of cover crop management include: getting soil dry enough to plant next year's crop, inadequate time for establishing cover crop, problems killing cover crop, increased use of short-term lease, cover crop supports insects that attack following crop, soil compaction in planting cover crop, rodent issues and neighbors' negative perception.

The majority of those currently using cover crops and those that do not responded similarly – the most common response for both was cost of cover crop seed. Those that do not use cover crops consider potential yield reduction a greater challenge than did those that use cover crops.

The majority of participants willing to try cover crops say the cost of cover crop seed is the challenge. Conversely, 50% of participants probably not willing and 43% of participants not willing to try cover crops say the time required for increased management was the challenge.



**Figure 6.**  
**Challenges of managing cover crops.**

## Information preferences

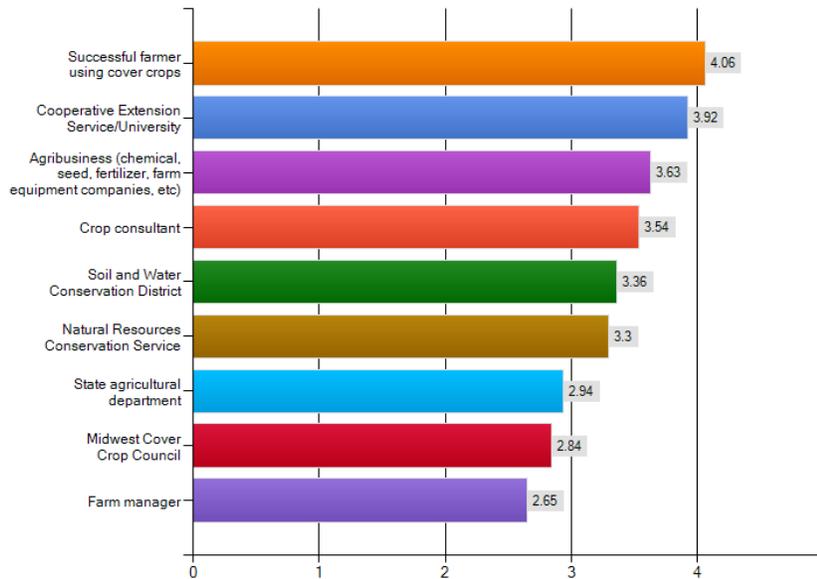
When asked which source of information they are most likely to go to for information about cover crops, participants (N=870) rate successful farmer using cover crops as the most trusted source (80% very or somewhat likely), followed by cooperative extension service/University (74% very or somewhat likely), agribusiness (chemical, seed, fertilizer, farm equipment companies, etc) (62% very or somewhat likely), crop consultant (59% very or somewhat likely), soil and water conservation district (53% very or somewhat likely) and Natural Resources Conservation Service (49% very or somewhat likely). See Figure 7.

The top three trusted sources of information for participants willing to try cover crops are: successful farmer using cover crops, cooperative extension service/university and agribusiness.

Participants (N=862) prefer to receive information about cover crops in brochures/fact sheets (50%), farm magazines (50%), computer information on CDs, DVD, video tapes, software, Internet web site, pod cast (49%) and field days on a working farm (47%). See Figure 8.

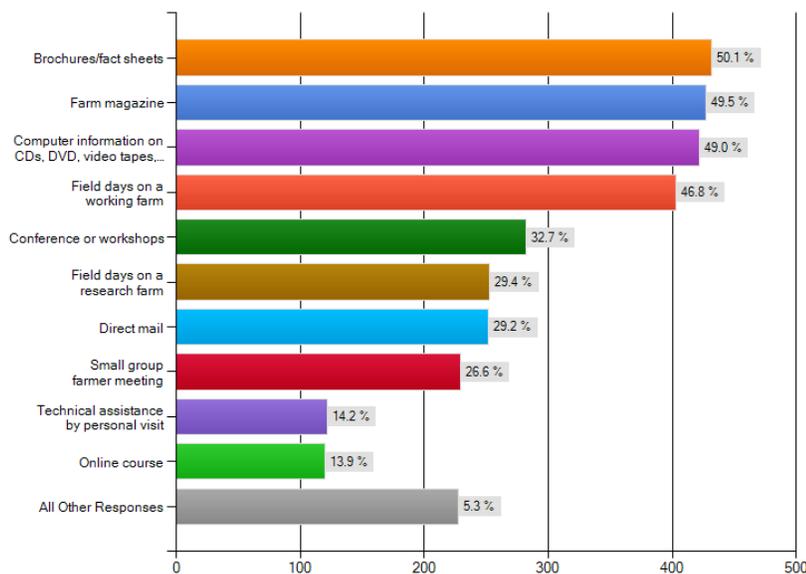
The least desired forms of information are technical assistance by telephone (1%), college class (3%) and newspaper articles (9%).

**Who are you MOST LIKELY to go to as a trusted source of information (or expertise) about cover crops?**



**Figure 7.**  
Trusted sources of information about cover crops.

**What are the top FOUR ways you would like to receive information about cover crops.**



**Figure 8.**  
Preferred ways to receive information about cover crops.

A closer look at top states responding to Cover Crop survey:

**ILLINOIS (N=111)**

- 76% of participants have never used cover crops; only 7% use cover crops now
- Narrow window to get planted is major barrier; many are concerned about the soil not drying out in the spring
- Many participants doing continuous no-till think they are doing enough
- Soil erosion control is major reason to consider cover crops and characteristic most desired in a cover crop
- One third of participants are not interested in trying cover crops
- Time required for increased management and cost of cover crop seed are predominant challenges to managing cover crops
- Top trusted sources for information about cover crops are: a successful farmer using cover crops, extension and agribusiness
- Best ways to get information to these participants are DVD and Internet

Many Illinois participants say that cover crops are not necessary in their continuous no-till systems. Participants do not seem aware of potential in nutrient cycling, breaking up compaction, etc.

**IOWA (N=104)**

- 80% of participants have never used cover crops; only 9% use cover crops now
- Narrow window to get planted is major barrier
- Soil erosion control is major reason to consider cover crops and most desired characteristic
- Need the right equipment, data on economic benefits of cover crops, and reduced costs or cost share to try cover crops
- 26 % of participants are not interested in trying cover crops
- Cost of cover crop seed and labor required to plant are predominant challenges of managing cover crops
- Top trusted sources for information about cover crops are: a successful farmer using cover crops, extension and crop consultants
- Participants prefer brochures/fact sheets to receive information about cover crops

**NEBRASKA (N=70)**

- 54% of participants have never used cover crops; 19% use cover crops now
- Narrow window to get planted is major barrier
- Soil erosion control is major reason to consider cover crops and most desired characteristic
- Need the right equipment and reduced costs or cost share to try cover crops
- 30% of participants are not interested in trying cover crops
- Cost of cover crop seed and cover crop becoming a weed the following year are predominant challenges of managing cover crops
- Top trusted sources for information about cover crops are: a successful farmer using cover crops, extension and Natural Resources Conservation Service
- Participants prefer brochures/fact sheets and field days on a working farm to receive information about cover crops

Some Nebraska participants indicated the moisture stress from cover crops will reduce yields. Other comments reveal that participants feel that cover crops are not needed when growing a row crop every year.

## **OHIO (N=70)**

- 59% of participants have never used cover crops; 26% use cover crops now
- Narrow window to get planted is major barrier
- Soil erosion control is major reason to consider cover crops and most desired characteristic; also recognized reduction of soil compaction, weed control and nitrogen fixation as characteristics
- Reduced seed cost, and having the right equipment and more information about benefits would convince participants try cover crops
- 20% of participants are not interested in trying cover crops
- Cost of cover crop seed and time required for increased management are predominant challenges of managing cover crops
- Top trusted sources for information about cover crops are: extension, a successful farmer using cover crops and crop consultant
- Participants prefer brochures/fact sheets and field days on a working farm to receive information about cover crops

Ohio participants feel that the additional work required by cover crops yields little benefit. Many do not feel cover crops are needed in their continuous no-till systems. Most Ohio participants recognized benefits of soil compaction, weed control and nitrogen fixation, in addition to decreased soil erosion. These growers want a cover crop to help dry the soil. Participants farming under short-term leases seem discouraged from trying cover crops.

## **MINNESOTA (N=53)**

- 77% of participants have never used cover crops; only 4% use cover crops now
- Narrow window to get planted is major barrier
- Soil erosion control is major reason to consider cover crops and most desired characteristic
- Need the data on economic benefits of cover crops and reduced costs or cost share to try cover crops
- 45% of participants are not interested in trying cover crops
- Time required for increased management and cost of cover crop seed are predominant challenges of managing cover crops
- Top trusted sources for information about cover crops are: extension, a successful farmer using cover crops and agribusiness
- Participants prefer DVDs/Internet web sites and brochures/fact sheets to receive information about cover crops

Minnesota participants cite snow and winter weather as reasons cover crops will not work in their farming operations. Many also saw no economic benefit to cover crops.

The majority of survey participants from Illinois, Iowa, Nebraska, Ohio and Minnesota have never used cover crops, and 20%-45% will not consider adding cover crops to their farming system. The most common reason for not using cover crops is not having enough time to get the crop planted. Most of the growers from these states who responded to this survey do not see the need and/or economic benefit of using cover crops.

# APPENDIX A



Dear Reader;

We'd like you to consider this "second request" to provide some information about your cropping practices. Corn & Soybean Digest is cooperating with the Conservation Technology Information Center (CTIC) and the Howard G. Buffett Foundation to learn more about producer cropping decisions through two short surveys. We invite you to spend 10 minutes answering questions about your agricultural operation. For your time and participation, CTIC is offering several prizes, including two \$100 gift cards. You can double your chances of winning by completing both surveys.

Please click here to take Cropping Decisions Survey #1

Please click here to take Cropping Decisions Survey #2

The answers you provide in these surveys are held strictly confidential and used only in combination with all others for industry percents and averages.

Thank you for your loyal readership and for participating in these surveys.

Sincerely,  
Scott Grau  
Research Manager  
Corn & Soybean Digest

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