MEDIA CONTACTS:
Rob Myers, Regional Director of Extension Programs, NCR-SARE
myersrob@missouri.edu / 573-882-1547

Chad R. Watts
Executive Director, CTIC
watts@ctic.org / 765-494-9555

Bethany Shively
Communications Director, ASTA
bshively@betterseed.org / 703-847-8140

COVER CROPS BOOST YIELD AND WEED CONTROL, SURVEY SAYS

September 15, 2017--Following the use of cover crops, farmers reported increased yields of corn, soybeans and wheat, and improvement in the control of herbicide-resistant weeds, according to a nationwide survey. In addition, the survey of 2,012 farmers showed acreage planted in cover crops has nearly doubled over the past five years.

Survey participants—88% of whom use cover crops—reported that after cover crops:

- Corn yields increased an average of 2.3 bushels per acre, or 1.3 percent;
- Soybean yields increased 2.1 bushels per acre, or 3.8 percent;
- Wheat yields increased 1.9 bushels per acre, or 2.8 percent.

This marks the fifth consecutive year in which the survey reported yield increases in corn and soybeans following cover crops. It is the first year the survey team was able to calculate the impact of cover crops on wheat yields. The poll was conducted by the Conservation Technology Information Center (CTIC) with help from Purdue University and funding support from USDA's Sustainable Agriculture Research and Education (SARE) program and the American Seed Trade Association (ASTA).

Herbicide-Resistant Weed Control

"In addition to yield increases, farmers reported other benefits to cover crops, ranging from improved soil health to better control of herbicide-resistant weeds," notes Rob Myers, Regional Director of Extension Programs for North Central SARE at the University of Missouri. "For instance, 85 percent of the farmers who used cover crops said they have seen improvements in soil health. That reflects long-term thinking and a growing understanding of the enduring value that cover crops deliver."

Myers adds that 69 percent of the respondents said cover crops always or sometimes improved control of herbicide-resistant weeds. That is a significant number, he notes, as a majority of respondents—59 percent—reported having herbicide-resistant weeds in at least some of their fields.

Planting Trends

Since SARE and CTIC began their annual cover crop survey in 2012, there has been a steady increase in cover crop acreage among participants. In this year's survey, farmers said they committed an average of 400 acres each to cover crops in 2016, up from 217 acres per farm in 2012. They expected to increase their cover crop planting in 2017 to an average of 451 acres.

The timing of cover crop planting is also evolving. Cover crops are typically planted in the off-season from cash crops, providing ground cover, nutrient sequestration and scavenging, weed suppression and soil health improvements. Approximately three out of four cover crop acres in the survey were planted after harvesting a cash crop, but the practice of inter-seeding covers into growing cash crops is an emerging trend—27 percent of the respondents said they seeded cover crops at sidedress fertilization time or in late summer.

At the other end of the cycle, "planting green"—seeding cash crops directly into living, green cover crops, then terminating the covers—had been tried or used by 39 percent of the respondents. They said the approach helped suppress weeds, manage soil moisture and maximize other benefits of cover crops. Planting green was uncommon just a few years ago.

B**usiness Opportunities**

The last USDA Census of Agriculture found that farmers planted more than 10 million acres of cover crops in 2012. The new agricultural census, which will begin this fall, is likely to find several million additional acres of cover crops planted in 2017.

The growth of cover-crop use is likely to expand a range of business opportunities throughout agriculture. Twelve-percent of the surveyed cover crop users hired aerial applicators to seed their cover crops, while 8-percent hired an ag retailer or co-op, and 6- percent hired another farmer to do the planting. Asked who they wanted to buy cover crop seed from in the future, 43 percent said they would like to buy from specialized dealers.

"The SARE/CTIC Cover Crop Survey is a great opportunity to gather insight into the purchasing decisions of farmers when it comes to cover crops," ASTA President and CEO Andy LaVigne says. "The data from the previous four years' surveys shows this is an important time to be involved in this space within the agriculture community, and ASTA members are pleased to support the efforts of SARE and CTIC to gain insight into the cover crop seed needs and requests of farmers nationwide."

Cover Crop Motivations

One of the most important outcomes of the SARE/CTIC Cover Crop Survey is insight into what motivates farmers to use—or start using—cover crops, notes Chad Watts, Executive Director of CTIC in West Lafayette, Indiana.

"Among cover crop users, we are seeing great enthusiasm for the soil health benefits of cover crops, with a widespread appreciation for the long-term benefits of covers," Watts notes. "We're also seeing openness to practices like inter-seeding and planting green, which raises cover crop use to the next level in terms of creating new options for species and mixes, and new opportunities to get even greater benefits from their covers.

"Among non-users, we're getting a strong signal that they want more information and training," he adds. "The feedback we're hearing through the survey will help guide the research and extension agenda to gather and share the information farmers need in order to adopt and succeed with cover crops."

In addition to the contributions of SARE, ASTA and Purdue, support for the survey was provided by ASTA members Beck's Hybrids, Grassland Oregon, Justin Seed Company, La Crosse Seed, Monsanto and Seedway, with additional help from Penton Agriculture.

The complete 2017 Cover Crop Survey Report is available online at www.sare.org/CoverCropSurvey.

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The Sustainable Agriculture Research and Education (SARE) program's mission is to advance—to the whole of American agriculture—innovations that improve profitability, stewardship and quality of life by investing in groundbreaking research and education. SARE is supported by the National Institute of Food and Agriculture (NIFA), USDA. Find SARE online at www.sare.org.

The Conservation Technology Information Center (CTIC) is a national, public-private partnership that champions, promotes and provides information on technologies and sustainable agriculture systems that conserve and enhance soil, water, air and wildlife resources and are productive and profitable.

Founded in 1883, the American Seed Trade Association (ASTA) represents over 700 companies involved in seed production, plant breeding and related industries in North America. ASTA is the voice of action in all matters concerning the development, marketing and movement of seed, associated products and services throughout the world. ASTA's broad membership offers varieties from alfalfa to zucchini and all production types including conventional, organic and biotech. We promote the development of better seed to produce better crops for a better quality of life. Learn more at www.betterseed.org.

2017 Cover Crop Survey by the Numbers:

- 2,012 farmers completed the survey
- 47 states were represented
- 400: average number of cover crop acres per cover crop user responding to the survey
- 691,164 acres of cover crops planted by survey participants
- 289,068 acres of cereal rye cover crop planted by respondents: the #1 cover crop species in the survey
- 2.3 bushels per acre: average yield increase in corn following cover crops
- 2.1 bushels per acre: average yield increase in soybeans after cover crops
- 1.9 bushels per acre: average yield increase in wheat after cover crops
- 86 percent of respondents said improved soil health is a key benefit of cover crops
- 69 percent of participants said a cereal rye cover crop was sometimes or always followed by better control of herbicide-resistant weeds
- 50 percent of cover crop users planted mixes in 2016 and intend to do so in 2017
- Two out of three farmers who planted cover crop species mix designed their own blend
- 39 percent of cover crop users say they have “planted green” into cover crops before terminating them
- 27 percent of cover crop users have tried inter-seeding cover crops into standing cash crops at side-dress timing or later
- 61 percent of farmers who planted green into cover crops say their weed control improved
- 48 percent of cover crop users always ask for a seed tag when buying cover crop seed; 28 percent say they sometimes do