

**Talking Soil Health: Sources for Disseminating Soil Health Information to Kansas Producers**

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### Introduction/Need for Research

Adoption of conservation practices by agricultural producers is improved when producers have a positive attitude and awareness of conservation practices (Prokopy et al., 2019). The literature recommends communicators disseminate the benefits of such practices and programs to enhance additional practice adoption (de Lange et al., 2019). Agricultural communicators need to provide content that is relevant and current with issues and information important to landowners making decisions about soil health practices (Meyers et al., 2015). There is a need to know how such content can be effectively shared among the producer social systems (Prokopy et al., 2019). The purpose of this study was to describe aspects of the social system utilized by Kansas landowner/operators to learn about soil health practices. Two objectives guided this study: (1) describe landowner/operator perceived trustworthiness of select sources for obtaining information about soil health and (2) describe landowner/operator interpersonal communications about soil health practices.

### Conceptual Framework

Diffusion of innovation theory states that adoption of innovations follows a universal process of social change (Rogers, 2003). The theory explains how, over time, an idea gains momentum and diffuses through a social system with four interacting elements – (1) an innovation, (2) communicated through certain channels, (3) over time, and (4) among members of a population (Rogers, 2003). The adoption of an innovation includes the collection, integration, and evaluation of new information to impact decisions. Increasing the availability and access to trusted, quality information allows adopters to determine the adoptability of a soil health practice (Baumgart-Getz et al., 2021; Genius et al., 2006). Positive information from experiences and third parties reveals the extent to which people trust each other. Trust builds up with continuing positive information from a particular source (Barrera & Buskens, 2009; Buskens et al., 2010).

### Methodology

A quantitative researcher-developed digital and paper survey was used to randomly sample Kansas agricultural producers following the recommendations of Dillman et al. (2009). Producer contact information was provided by multiple agricultural organizations. The instrument included questions regarding producer demographics, soil health practice application and perceptions, as well as communication preferences. Prior to the main survey, a pilot study was conducted with 30 producers in neighboring states to determine survey reliability and validity. Of the total responses (N = 356) collected between July 1 – July 12, 2021, 194 landowner/operators completed the survey and were included in descriptive analysis using SPSS.

### Results

**RO1: Landowner/operators' perceived trustworthiness of select sources for obtaining information about soil health.** Respondents (n = 194) did not perceive any sources as *very untrustworthy* or *very trustworthy*. Table 1 describes the trustworthiness of each source as perceived by the respondents.

**Table 1***Landowner/operators' perceived trustworthiness of sources for obtaining soil health information*

Source	<i>M</i>	<i>SD</i>	Interpretation
Natural Resources Conservation Service	3.99	1.03	Trustworthy
Extension agents	3.87	1.06	Trustworthy
Family and friends	3.84	1.01	Trustworthy
Universities	3.80	1.12	Trustworthy
Crop Consultants	3.76	.97	Trustworthy
Scientists/Researchers	3.75	1.03	Trustworthy
Farm Service Agency	3.66	1.17	Trustworthy
Seed Distributors	3.32	.95	Neither
Trade Organizations	3.05	.97	Neither
Non-government organizations	2.98	1.08	Untrustworthy
Food Manufacturers	2.34	1.00	Untrustworthy
News media	2.27	1.07	Untrustworthy

*Note:* Real Limits: 1.00 to 1.49 = *Very untrustworthy*; 1.50 to 2.49 = *Untrustworthy*; 2.50 to 3.49 = *Neither trustworthy nor untrustworthy*; 3.50 to 4.49 = *Trustworthy*; 4.50 to 5.00 = *Very trustworthy*.

## **RO2: Landowner/operator interpersonal communications about soil health practices.**

When asked how often, ranging from *Never* to *Often*, respondents (n = 194) talk to their friends and colleagues about soil health practices, respondents on average fall in between the two ends of the spectrum ( $M = 3.25$ ,  $SD = 1.22$ ). Landowner/operators were asked about how much information, ranging from *Very little* to *A great deal*, they give when speaking with friends and colleagues about soil health practices, respondents reported perceiving themselves as giving a neutral amount of information ( $M = 3.08$ ,  $SD = 1.12$ ). Reflecting on all discussions with friends and colleagues regarding soil health practices, respondents were asked to indicate the extent to which they are used as a source of advice, ranging from *Not used as a source of advice* to *Often used as a source of advice*. Landowner/operators perceive themselves as sources for their friends and family sometimes ( $M = 2.85$ ,  $SD = 1.22$ ).

## **Conclusions**

Findings indicate trustworthy sources are those with perceived expertise or specialty in soil health when communicating about the topic with Kansas landowner/operators. The most trustworthy source being the Natural Resources Conservation Service and the least trustworthy being the news media. Though friends and family were rated as a trustworthy source, interpersonal communications findings did not indicate a strong use of the source for sharing or receiving information.

## **Implications/recommendations/impact on profession**

We recommend organizations wanting to communicate soil health information consider utilizing the sources considered trustworthy by the respondents of this study. Additional analysis is needed to determine what makes a source trustworthy to Kansas landowner/operators. Understanding the sources landowner/operators trust allows agricultural communicators to execute communication strategies using the most effective sources to reach their audience and encourage soil health practice implementations on farm and ranch operations.

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