
# Welcome to *The Current*, the North Central Region Water Network's Speed Networking Webinar Series

## **Communicating Conservation to Landowners**: 2PM CT

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This session will be recorded and available at northcentralwater.org.


# Today's Presenters:

- **Dara Wald**, Associate Professor in the Department of Agricultural Leadership, Education, and Communications at Texas A&M University
- **Collin Weigel**, Behavioral Economist at the California Air Resources Board
- **Serge Koenig**, Conservation Technician, Sauk County Land Resources and Environment Department

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# Dara Wald

Dara Wald is an associate professor in the Department of Agricultural Leadership, Education, and Communications at Texas A&M University. Prior to this, Dr. Wald held a position in the Greenlee School of Journalism and Mass Communication at Iowa State University (ISU) as an assistant professor and co-organizer of the Science Communication Project. She was a finalist for the Andrew Carnegie Fellowship in 2021 and received the 2019-20 Cassling Innovation Award from ISU. Her research explores the drivers of conflict and the barriers to effective communication in agricultural and environmental contexts, with an emphasis on identifying pathways for collaborative solutions to the management of natural resources (e.g., water, wildlife, and land).

# Communicating with farmers about conservation: A systematic review

*Dara M. Wald, PhD*
*Associate Professor*
*Department of Agricultural Leadership, Education and Communications*
*Texas A&M University*

*Laura Witzling, PhD*
*Assistant Professor*
*Greenlee School of Journalism and Communication*
*Iowa State University*

# Overview

We conducted a systematic literature review of quantitative work about **farmers, conservation, and communication**

We wanted to:

- Understand the trends
- Provide guidance for future work


Image source:
https://ofbf.org/2015/09/06/a-big-splash/

# The problem: Nutrient pollution

Nitrates can contaminate drinking water quality

- $4.8 billion to remove nitrates from our water (EPA, 2017)

Nutrients contribute to dead zones

- Hurt aquatic life
- Hurt our economy

Image source: https://www.epa.gov/nutrientpollution/effects-environment

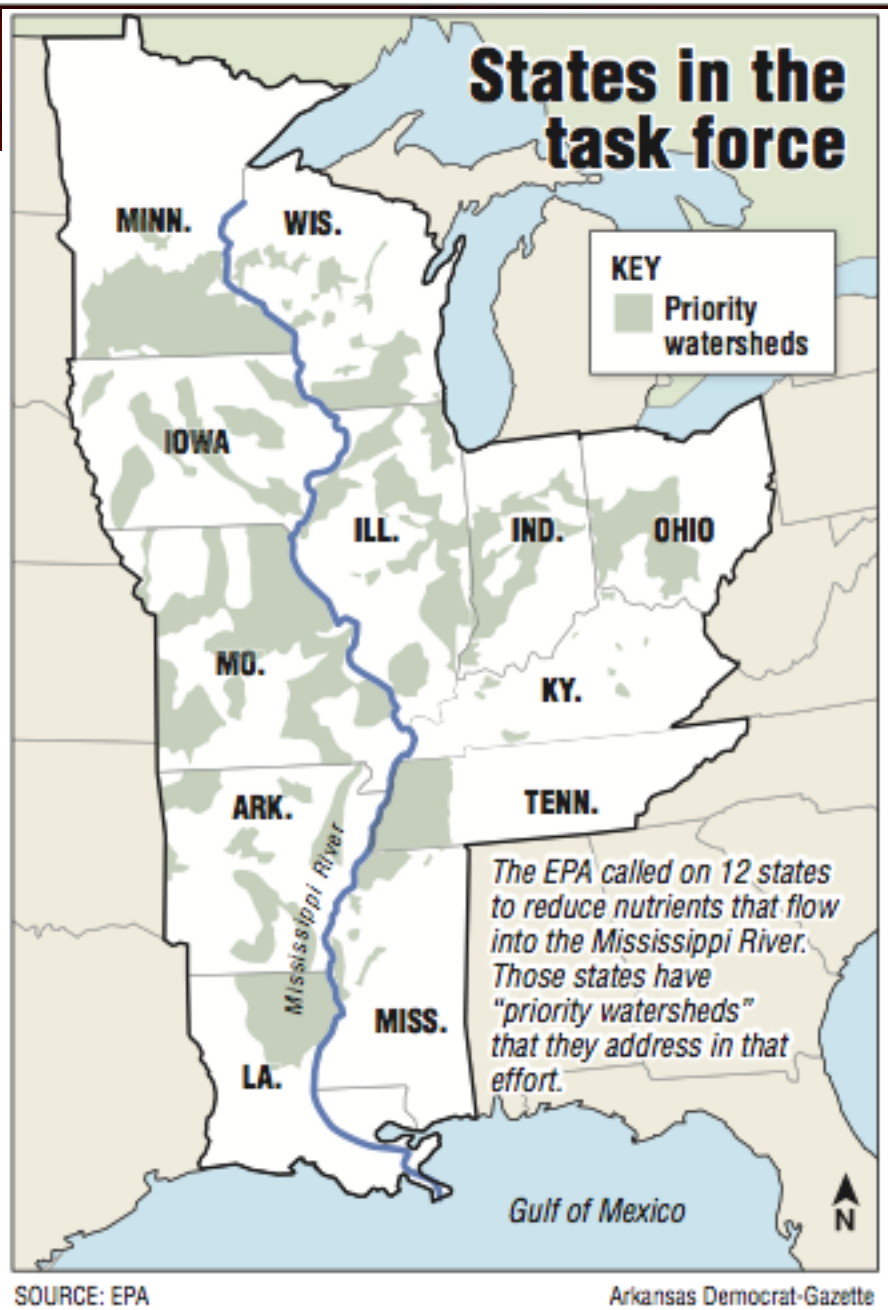
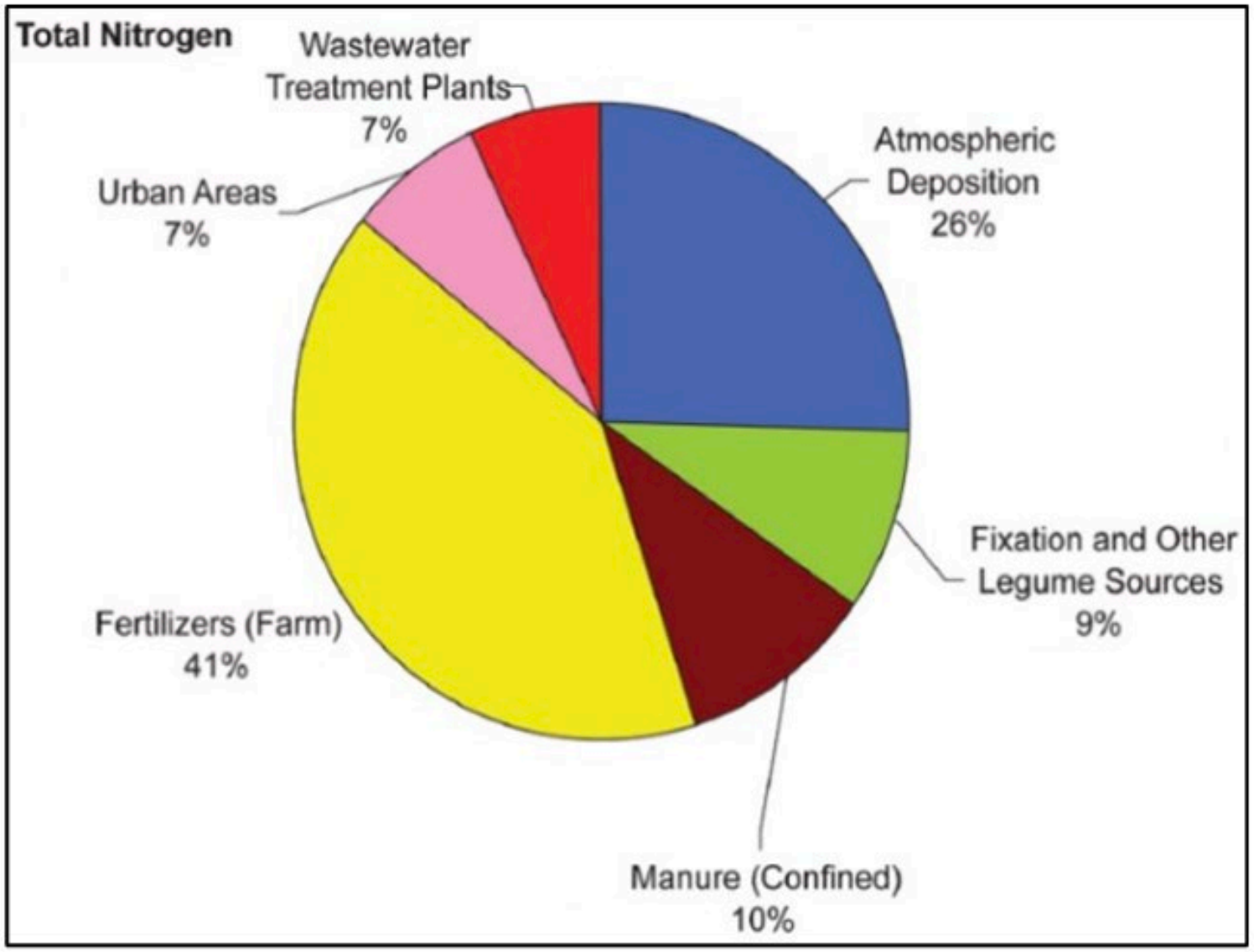



Image source: https://www.arkansasonline.com/news/2016/nov/27/states-miss-goal-gulf-s-dead-zone-unche/


Total Nitrogen
Wastewater Treatment Plants 7%
Urban Areas 7%
Atmospheric Deposition 26%
Fixation and Other Legume Sources 9%
Fertilizers (Farm) 41%
Manure (Confined) 10%

(EPA, 2017)

# What we know

Public and private entities encourage farmers to adopt conservation practices to reduce nutrient pollution

- Many studies have been done to predict factors related to adoption (Prokopy et al., 2019)

# Research Questions

RQ1: How have scholars measured farmers' information seeking, selecting, and sharing?

RQ2: What distinct farmer audience segments have scholars described?

RQ3: What trends emerge regarding how farmers actively and passively seek, select, and share information about conservation?

# STOPS

Situational theory of problem solving (STOPS)

- Segment audiences based on their own communication behaviors, and adapt communication accordingly
- Communication behaviors include **seeking**, **selecting**, and **sharing** information actively or passively (Grunig & Hunt, 1984; Kim & Grunig, 2011)

# Methods

- Web of science
- 2009 to 2019
- Topic search: “farmer” or farmers,” “survey,” and at least one of the following words or terms: “best management practices,” “bmps,” “conservation,” “nutrient,” or “nutrients.”
- 103 studies fit our criteria

# Methods

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# RQ 3: Themes

**Theme 1:** Farmers seek or receive information about conservation from multiple sources.

- Farmers seek or receive information from at least three sources or channels
  (Houser et al., 2019; Lee et al., 2018; Varble et al., 2016)

# RQ 3: Themes

**Theme 2:** Accessing information does not appear to be a major challenge to farmers

- Several studies support that generally accessing information about conservation is not a major challenge to farmers

  (Arbucke, 2013; Darby et al., 2015; Lemke et al., 2010; Valdivia et al., 2012; Wang et al., 2019).

# RQ 3: Themes

**Theme 3:** Farmers show distinct preferences regarding information sources

- Farmers prefer information from Extension, particular agencies, and personal connections

(Druscke & Secchi, 2014; Eanes et al., 2017; Lee et al., 2018; Perry-Hill and Prokopy, 2014; Rosenberg & Margerum, 2008; Valdivia et al., 2012).

# RQ 3: Themes

**Theme 4:** News media likely play an important role, but few studies include these variables

# RQ 3: Themes

**Theme 5:** The connection between attitudes and information remains unclear

- We found only one study which regressed communication-related variables on attitudes (Lee et al., 2018)

# Conclusions/Implications

- If you want attention, you need to involve multiple sources
- Future survey work should use a variety of sources and avoid vague terminology
- Media sources should be included in more surveys
- Consider asking about “attention” to media
- We need work to describe farmers’ communication behaviors and sources more dynamically

| | | |
|---|---|---|
| Government | Farmers feel differently about particular government agencies. As space allows, survey items should relate to specific agencies, as opposed to general sources such as "government sources" or "state government." | "Department of Natural Resources (DNR)," "Environmental Protection Agency (EPA)," "Farm Service Agency (FSA)," "Natural Resource Conservation Service (NRCS)," "United States Department of Agriculture (USDA)" |

# Thank you!


- Dr. Dara M. Wald, Associate Professor
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- Dr. Laura Witzling, Assistant Professor
  witzling@iastate.edu

# Please don’t share slides after this – these are notes for Dr. Wald

# Lots of scholarly work

**Table 12**
Information—Sign test and significance vote count.*

| | Significance vote count | | | | | Coefficients–Sign test | | | |
|---|---|---|---|---|---|---|---|---|---|
| Subcategory (hypothesis) | # of rows (# of studies) | Neg. | Not sig. | Pos. | % of rows consistent with hypothesis | # of rows (# of studies) | Lower 95% confidence interval bound | Upper 95% confidence interval bound | Proportion consistent with hypothesis |
| Affiliation (+) | 109 (5) | 10 | 85 | 14 | 12.8 (14/109) | 111 (7) | 0.40 | 0.58 | 0.49 |
| Evaluation (+) | 86 (9) | 7 | 70 | 9 | 10.5 (9/86) | 45 (8) | 0.39 | 0.67 | 0.53 |
| Sought/use (+) | 360 (32) | 10 | 270 | 80 | 22.2 (80/360) | 265 (28) | 0.63 | 0.74 | 0.69† |

*Definitions for the information category are included in table 4.

†Variables are positive/negative more often than expected by chance.

(Prokopy et al., 2019)

# Limitations

- We only focused on survey studies

# Next steps

- We are working on a project through the Iowa Nutrient Research Center (INRC) to conduct a media content analysis

# References


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Lee, D., Arbuckle, J. G., Zhu, Z., & Nowatzke, L. (2019). Conditional causal mediation analysis of factors associated with cover crop adoption in Iowa, USA.) *Water Resources Research, 54*(11), 9566-9584.


# Collin Weigel

Collin Weigel is the Behavioral Economist at the California Air Resources Board, where applies methods for behavior change and economics to improve environmental program and policy design. His past work at Johns Hopkins University and The Nature Conservancy centered on outreach, engagement, and conservation adoption in agriculture with farmers and non-operating landowners. By using rigorously designed studies conducted in the field, his work generates credible, causal evidence for the efficacy of different strategies.

# It is better to know: Designing programs for evaluation and embracing failure

COLLIN WEIGEL | CALIFORNIA AIR RESOURCES BOARD - OPINIONS ARE NOT THOSE OF CARB

THANKS TO COAUTHORS: SETH HARDEN, YUTA MASUDA, PRANAY RANJAN, CHLOE WARDROPPER, RICK CRUSE, PAUL FERRARO, LINDA PROKOPY, SHEILA REDDY

# What works?

Many ways to implement a program, but which is best?

Who decides which version to do?

- Loudest voice in the room
- Highest ranking person
- Person with the most experience

What happens the next time you implement a similar program?

- Still don’t know what works best!

# Preview

## Test 1

We sent messages to over 30,000 landowners in the U.S. Corn Belt

Messages emphasized (1) economic or (2) economic/environmental benefits of conservation, or (3) say nothing about the benefits

Invited landowners to return a postcard for more information

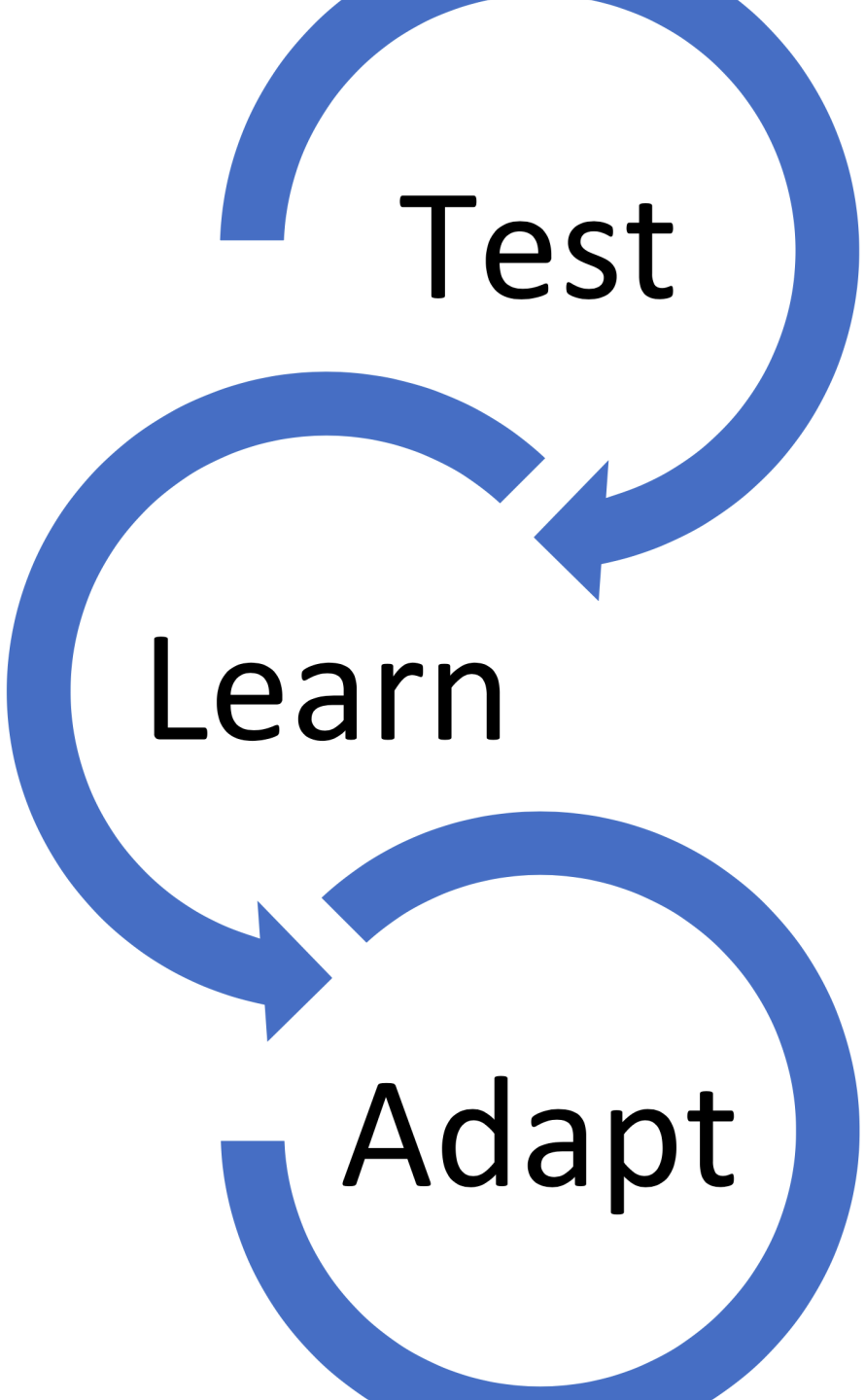
# Preview

## Test 2

We sent messages to 3,000 farmers in erosion-prone regions of Iowa

Messages used local vs state-level information

Asked farmers to complete a brief survey




# Structure of a test

Target population

RANDOMIZE which version people get

Measure a real outcome

# Enrolling NOLs in an environmental program

We will test the effect of information/nudge/financial incentive in an environmental program for non-operating landowners

First step is to recruit them – might as well test what works!

No consensus in the literature

- For every study saying to do something, there seems to be another saying don't do that!

The Nature Conservancy

PURDUE UNIVERSITY

JOHNS HOPKINS UNIVERSITY

# Who we message

The U.S. Corn Belt is a large but critical environmentally area

We target non-operating landowners

- These lands have a low rate of using conservation practices

30,000+ messages, 1/3 of the NOLs that we are able to contact

- Randomly drawn from full sample
- Large, representative set of relevant population

# Which was most effective?



# What we found

Among NOLs without cover crop experience, the simple “what is soil health” message was significantly better than the economic message (~22% fewer responses).

Highlighting the economic benefits may not be a good message for people not already choosing to use conservation practices.

Using framing *did not* make large gains in response rates, and that’s OK!

- Test, learn, adapt
- Test, learn, adapt

# Targeted messaging

Information that is more localized could be more useful and stand out

We test if giving farmers information on local soil conditions (HUC-12) with an image of their county and watershed affects engagement rates

Could depress engagement among a population wary of overreach

The Nature Conservancy

STATE

JOHNS HOPKINS UNIVERSITY

# State-Level Information

IOWA STATE UNIVERSITY

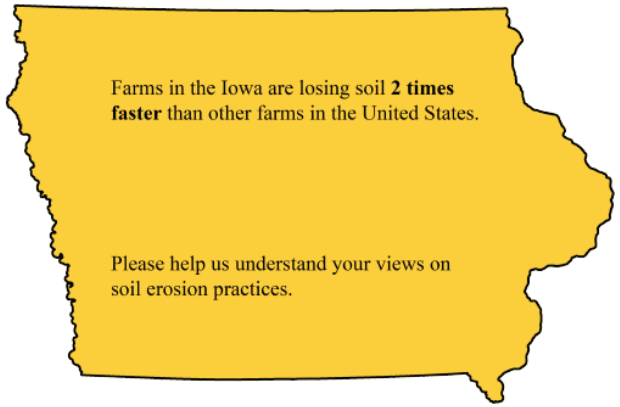
Soil Erosion Initiative for Iowa
176 Farmhouse Lane
Department of Agronomy
Iowa State University
Ames, IA 50011

Farms in Iowa lost about **$11.55 per acre** in nitrogen and phosphorous due to soil erosion last year.

Please help us better understand how to stop this loss by completing the included 2-minute voluntary research survey.

Sample Farmer
123 House Place
Farmland, IA 99999

Iowa




# Targeted Information (HUC-12)

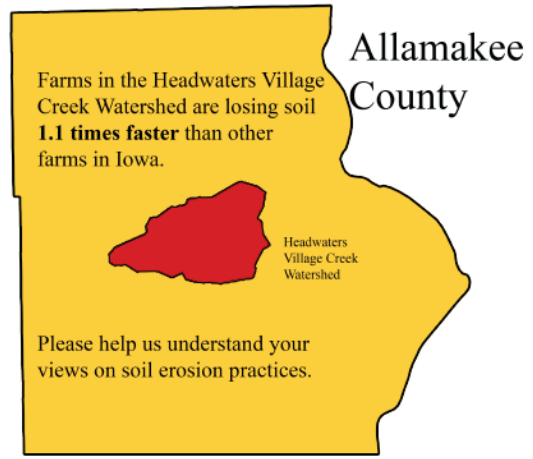
IOWA STATE UNIVERSITY

Iowa Soil Erosion Initiative
176 Farmhouse Lane
Department of Agronomy
Iowa State University
Ames, IA 50011

Farms in the Headwaters Village Creek Watershed lost about **$12.24 per acre** in nitrogen and phosphorous due to soil erosion last year.

Please help us better understand how to stop this loss by completing the included 2-minute voluntary research survey.

Sample Farmer
123 House Place
Farmland, IA 99999



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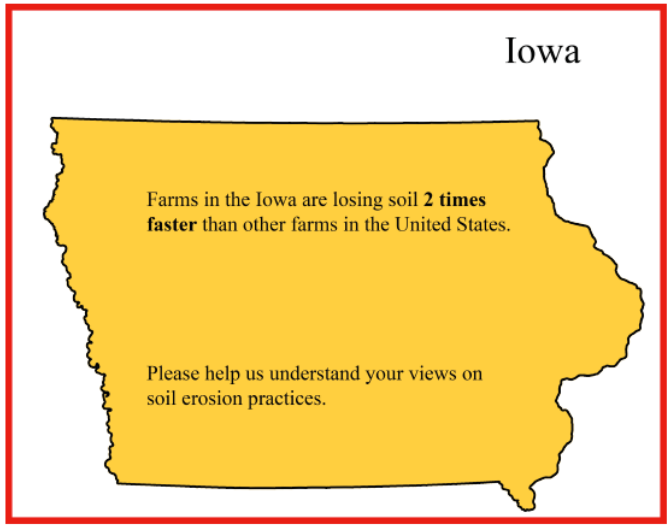


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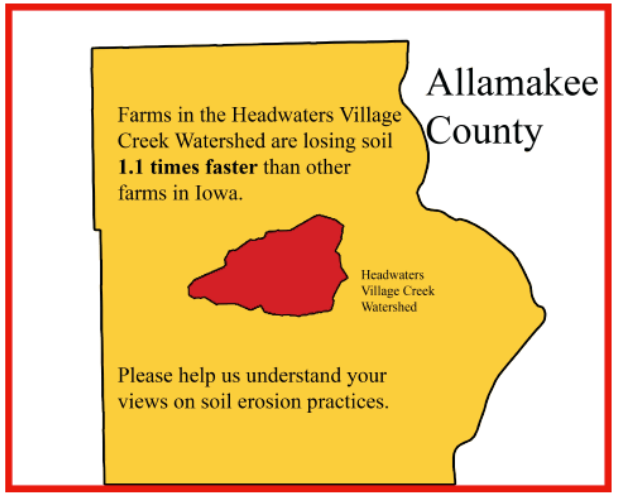


# What we found

Local information increased response rates by about 20%

Roughly accounts for additional cost of customizing in this trial

- Cost is often not the constraining factor. Many programs cannot be infinitely scaled up, which makes response rates an important factor beyond cost savings.

# What to remember

Targeting messages with local information may be a good strategy

Highlighting the economic benefits of conservation practices may not be a good strategy

It is important to *test* what works

- Must accept failure. If everything works, something is wrong.
- NOL cover crop adoption program – Even though 45% of surveyed landowners said they would adopt the practice with an incentive, our real-world trial found only 1.5% did.
- Test, learn, adapt

# Thank you!

Feel welcome to contact me at Collin.Weigel@arb.ca.gov

NORTH CENTRAL REGION
WATER NETWORK

# Serge Koenig

Serge Koenig has been a Sauk County natural resource professional for twenty-seven years. He has a Watershed Management degree and a Soils Minor from University of Wisconsin Stevens Point. Serge has been working with landowners and various organizations in Sauk County to sustain and improve its natural resources. He is a tireless advocate of managed rotational grazing as tool for regenerating our soils, water and human resources. In his free time, he loves spending time with his family gardening, traveling, hiking, camping, fishing, hunting and coaching his two boys' soccer and basketball teams.

# How to Get People on Board with Conservation Practices

By Serge Koenig

Sauk County LRE Department


MADAGASCAR

# Getting to "YES" – My experience

Knowing how to ask questions.

Then TRULY LISTEN. Be a student of their farm. People love to teach about their operation.

Try to understand your clientele. Work on farms.

# Patience

For some folks one can get to "yes" the same day.

For others, it may take 1-3 years.

# Persistence

Don't give up too easily but don't overdo it.

Find that balance.  Takes practice.

# "I don't Know"

It's OK to say "I don't know".

Help get the answer in a timely manner.

# Limit Jargon

Keep it simple.

Limit use of jargon and abbreviations.

# Stay Calm

Important to not bolt off the farm when you are getting yelled at.

Blowing off steam before landowner calms down and actually talk with you.

Rephrase their frustration so they know you are listening and understand.

Give personal example.


Art or Science?
It's both.
Practice makes perfect.....or at least better.

# Comfort Level

- Sitting on recliner , gets comfortable, see things from the same angle, we settle in, indent the chair a bit

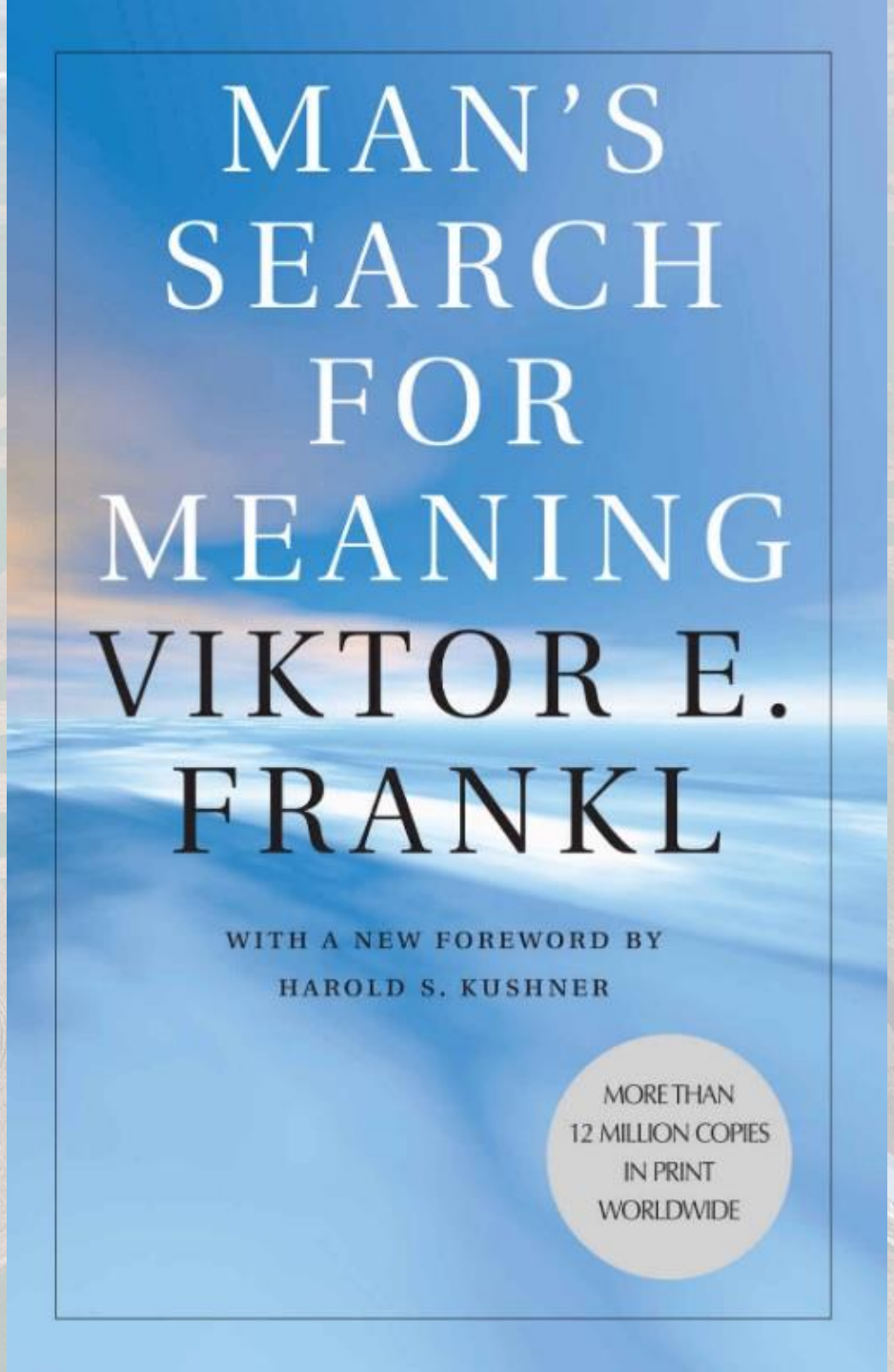
- Takes effort to get off the couch and move to another chair.  It changes your perspective of the subject at hand but the rewards of that effort can be life changing.

# What's Your "WHY"?

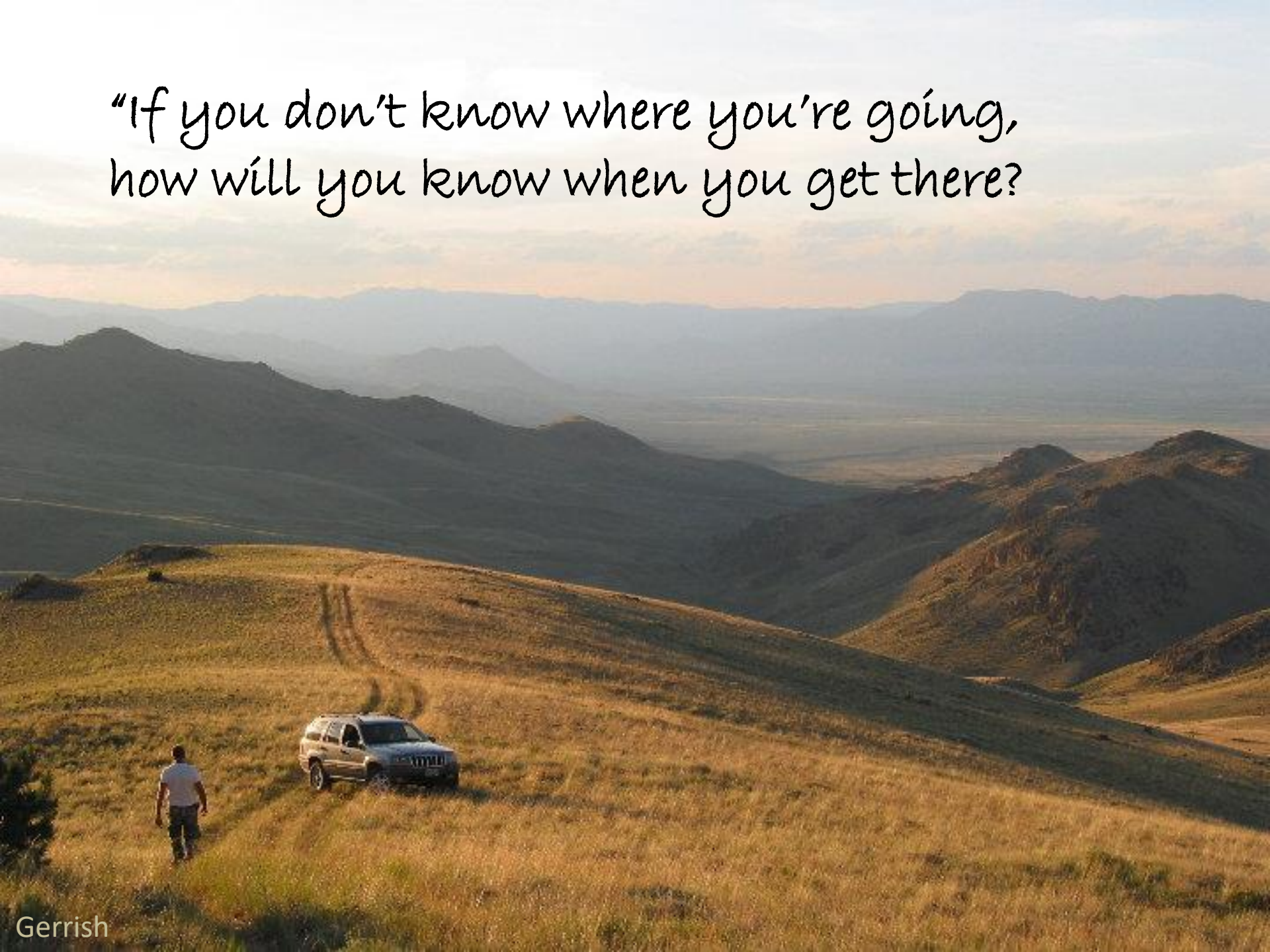
Know your "Why" first?

When TRUST is built through time spent with producer start asking about their "Why".

Serge Koenig


MAN'S SEARCH FOR MEANING
VIKTOR E. FRANKL
WITH A NEW FOREWORD BY
HAROLD S. KUSHNER
MORE THAN 12 MILLION COPIES IN PRINT WORLDWIDE

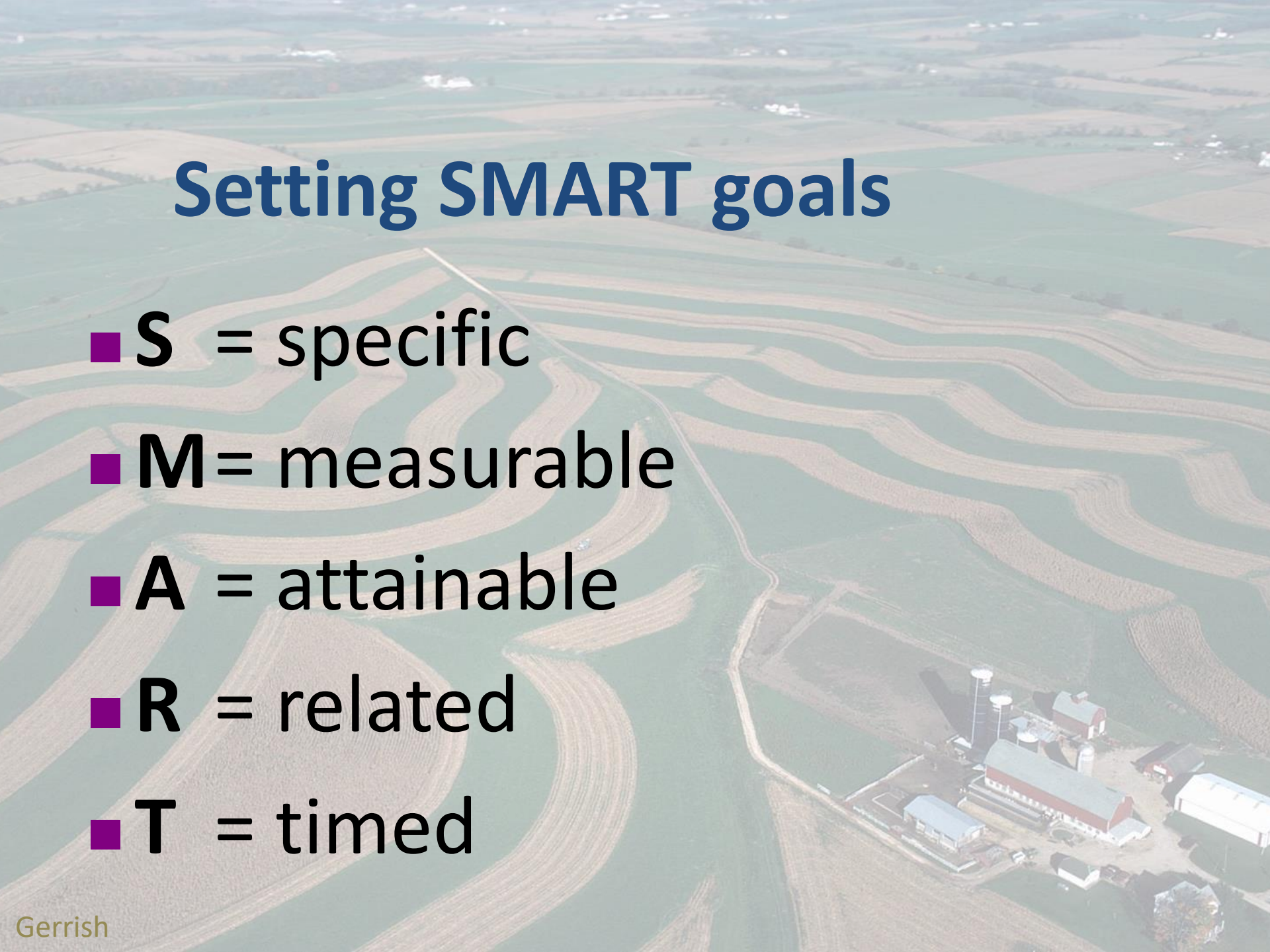

"If you don't know where you're going,
any road will get you there."
Gerrish


"If you don't know where you're going,
how will you know when you get there?
Gerrish

# Creating a planned future With Goals and Objectives

# Setting SMART goals

- **S** = specific
- **M** = measurable
- **A** = attainable
- **R** = related
- **T** = timed



# SMART Goal Setting Template

What's the initial goal you have in mind?

Expand on this goal using the SMART attributes.

| | |
|---|---|
| **S** Specific | **What do I want to achieve?** Be precise. |
| | |
| **M** Measurable | **How will I know when I've reached my goal?** What are the metrics and milestones I need to hit along the way? |
| | |
| **A** Achievable | **What do I want to achieve?** Be precise. |
| | |
| **R** Relevant | **Why is this goal worthwhile?** Does it support the wider team and my other responsibilities? |
| | |
| **T** Timely | **When do I want to achieve this goal?** Write down a target date. |
| | |

Now rewrite your initial goal as a concise, defined SMART goal.

# Track your goal progress

**What are the action steps you need to take to achieve this goal?** Order these by priority or by their due date.

- Action: _____
- Action: _____
- Action: _____

**Am I on track to achieve this goal?** What obstacles have come up and what support do you need?

- Obstacle: _____
- Support: _____
- Obstacle: _____
- Support: _____
- Obstacle: _____
- Support: _____

**Milestones achieved.** Note down every time you hit one of your measurable milestones along the way.

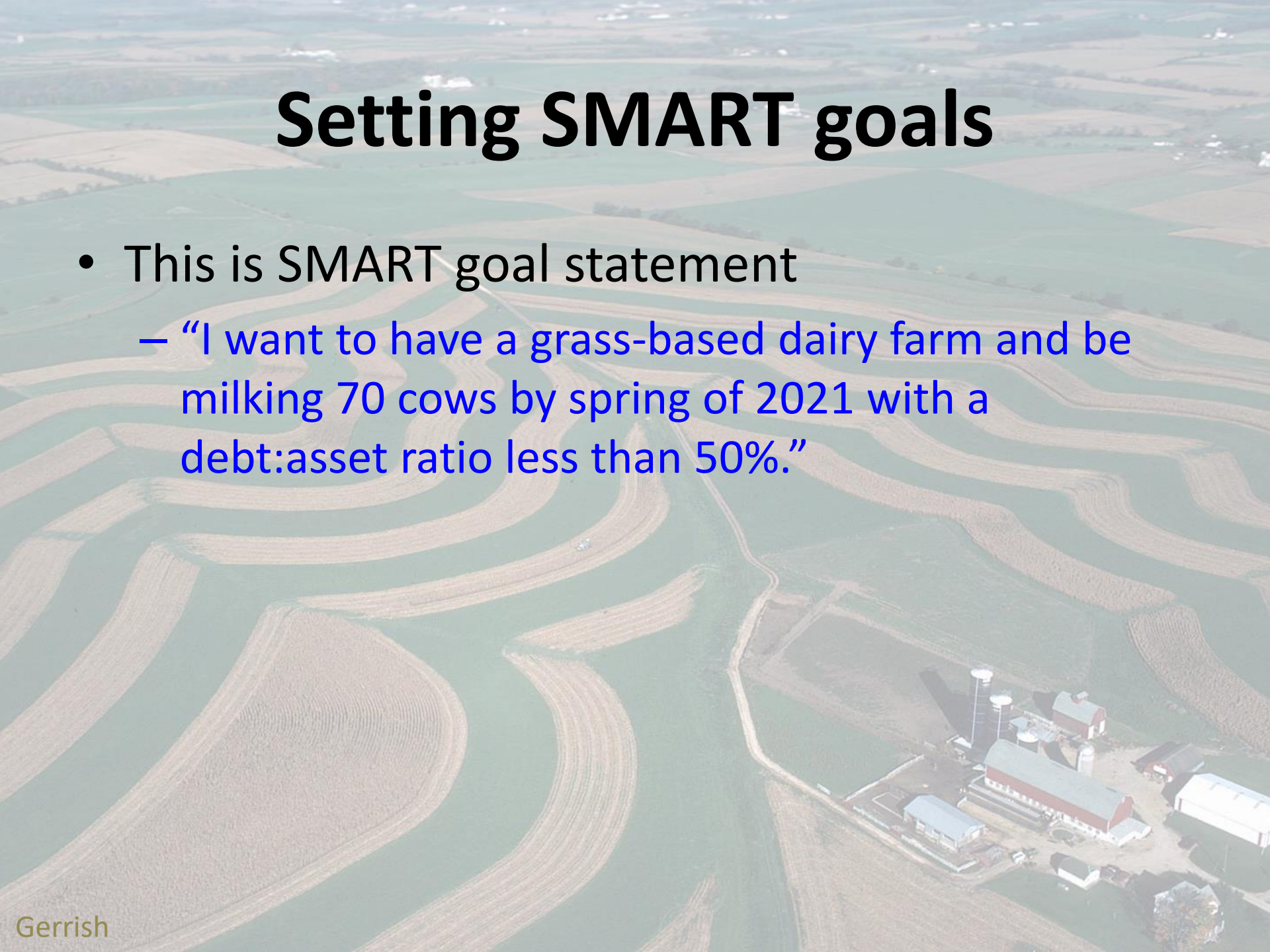
- Milestone 1: _____
- Milestone 2: _____
- Milestone 3: _____

**Target date.** Have you achieved your goal?

_____

# Setting SMART goals

- This is SMART goal statement
  - "I want to have a grass-based dairy farm and be milking 70 cows by spring of 2021 with a debt:asset ratio less than 50%."



# What kind of goals are important ?

- Lifestyle
  - How do you want to live ?
  - Where do you want to live ?
  - How do you want to raise your kids ?

***These are the foundation for all other choices!***

Serge Koenig
serge.Koenig@saukcountywi.gov
608-355-4837


# Question and Answer Session

We will draw initial questions and comments from those submitted via the chat box during the presentations.

**Today's Speakers**

Dara Wald – dara.wald@ag.tamu.edu
Collin Weigel – collin.weigel@arb.ca.gov
Serge Koenig – serge.koenig@saukcountywi.gov


# Thank you for participating in today's *The Current*!

Visit our website, northcentralwater.org, to access the recording and our webinar archive!

Two upcoming webinars from our soil health team and our partners at Grassland 2.0:

**The Yahara WINS Project: Past, Present and Future**
Tuesday, March 15th at 12PM CT
https://grasslandag.org/blog/new-digital-dialogue-series-set-to-take-place-this-spring/

**Long-term effect of cover crops on soil health and crop yield**
Wednesday, March 16th at 2pm CT
https://soilhealthnexus.org/