

# Understanding Influences on Grower Decision Making and Adoption of Nitrogen Management Practices

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Research support from:



# Research Project Overview

- To identify what N management practices grower adopt
  - Fertilizer – N budget; Leaf sampling; Split application
  - Soil – Soil sampling; Organic amendments; Cover crops
  - Irrigation – ET scheduling; Plant water stress; Soil sensors; DU
- To relate challenges with adoption of N management practices
  - Tangible – Cost; Labor; Supplies
  - Intangible – Technical knowledge; Efficacy; Uncertainty
- To understand frequency and usefulness of information sources
  - Farm direct – PCA/CCA and Peers/Neighbors
  - Education – UCCE; WQC; NRCS; FREP; Industry associations

# Winter 2017 and Spring 2018 Surveys



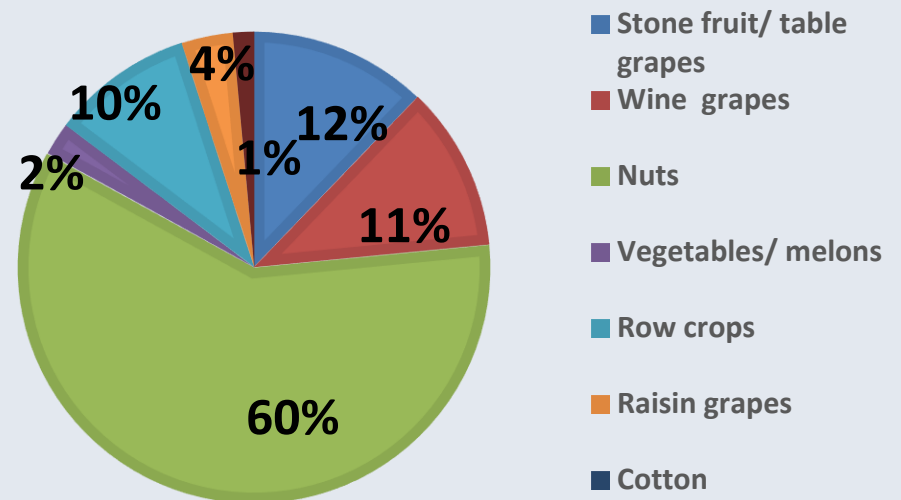
## Spring 2018

**389 growers participated in in the Colusa Glenn subwatershed program using a mail survey**

## Winter 2017

**565 growers participated in the N San Joaquin Valley at annual Water Quality Coalition Meetings**

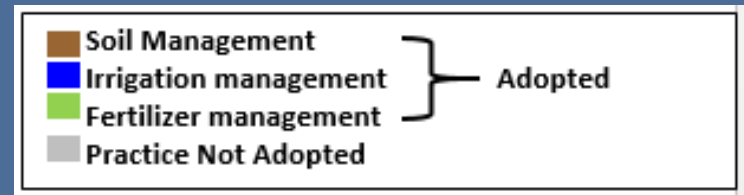
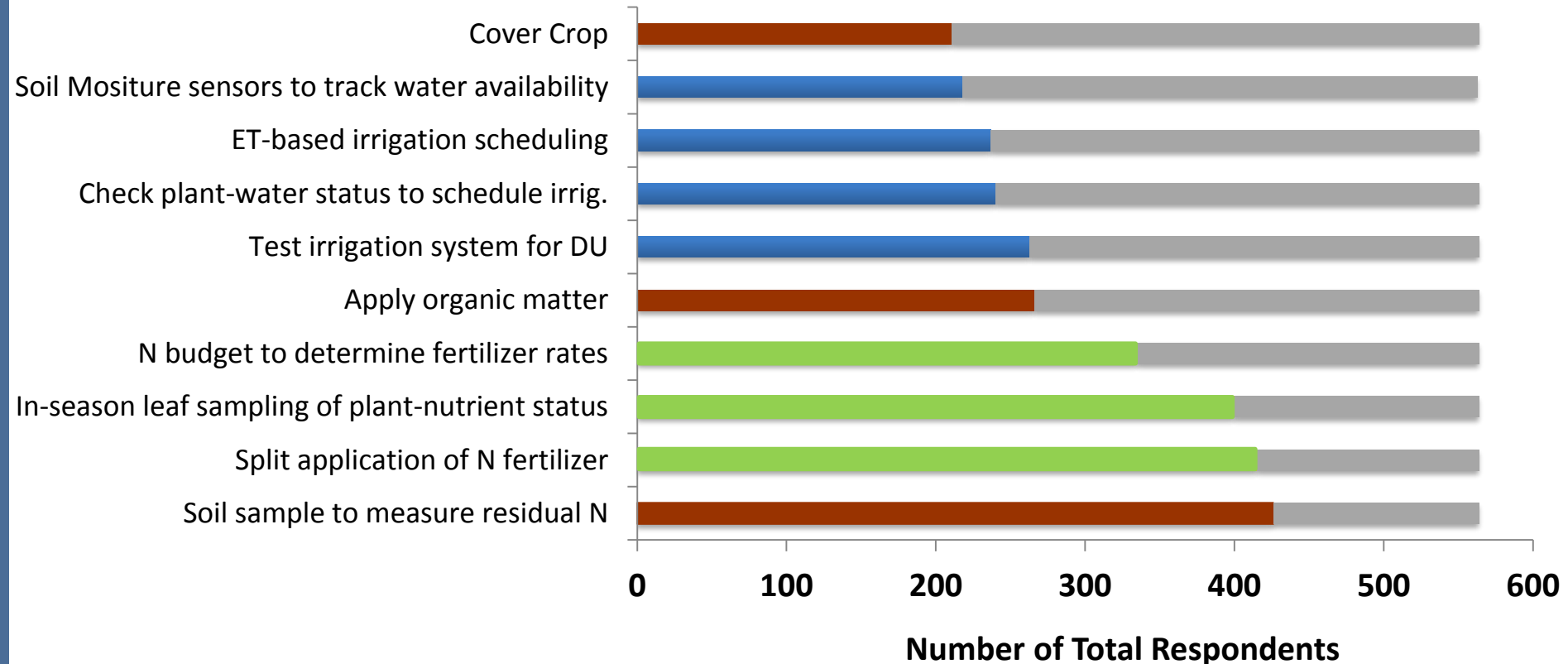
WINTER 2017  
CROP TYPE OF RESPONDENTS



# Preliminary Results | Winter 2017 Survey

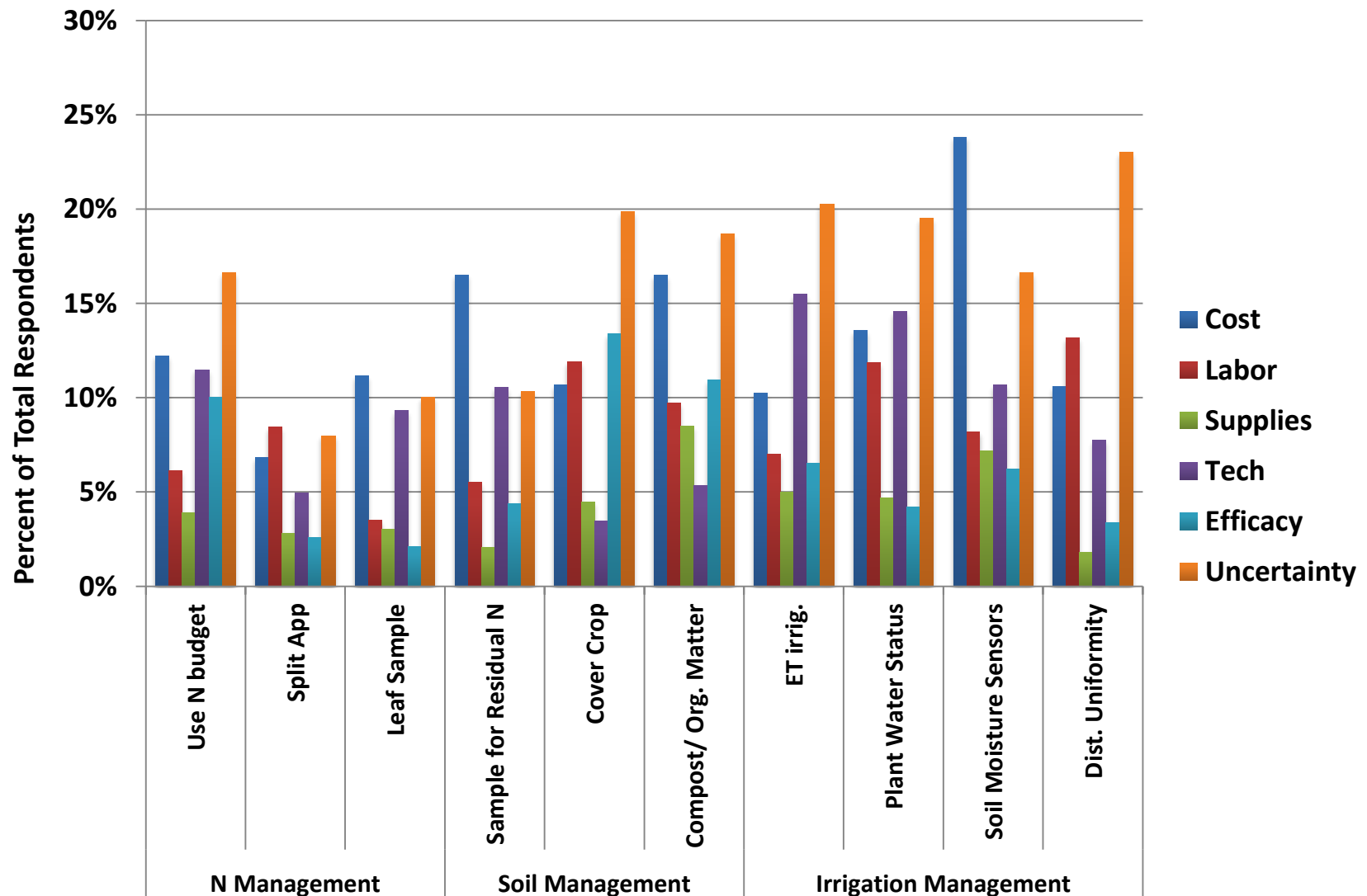
“Do you use any of the following fertilizer, soil or irrigation practices?”

Total number of respondents reporting adoption/ non adoption of each practice



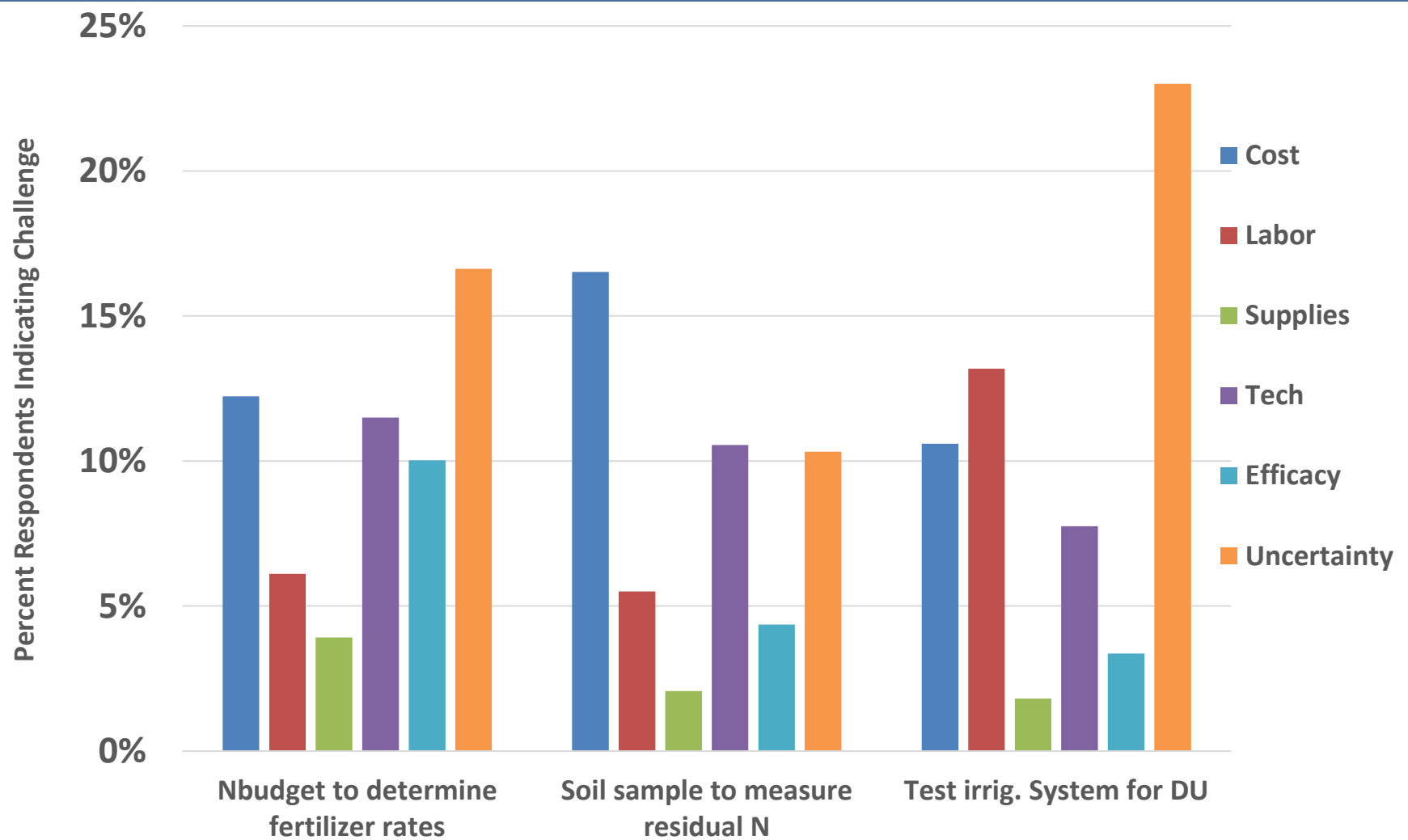
# Preliminary Results | Winter 2017 Survey

“Do any of the following challenges hinder, discourage or inhibit your implementation of these practices?”



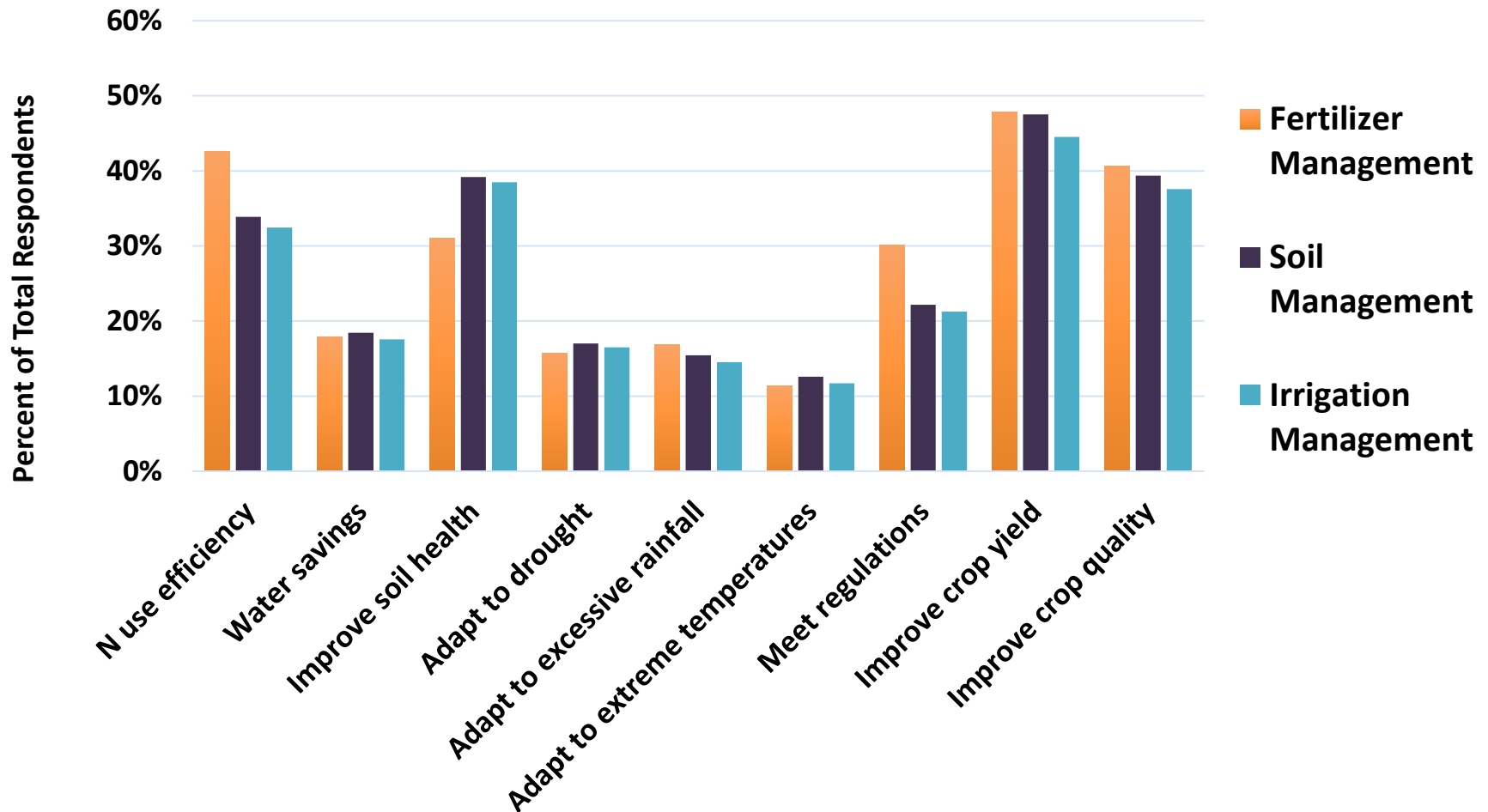
# Preliminary Results | Winter 2017 Survey

“Do any of the following challenges hinder, discourage or inhibit your implementation of these practices?”



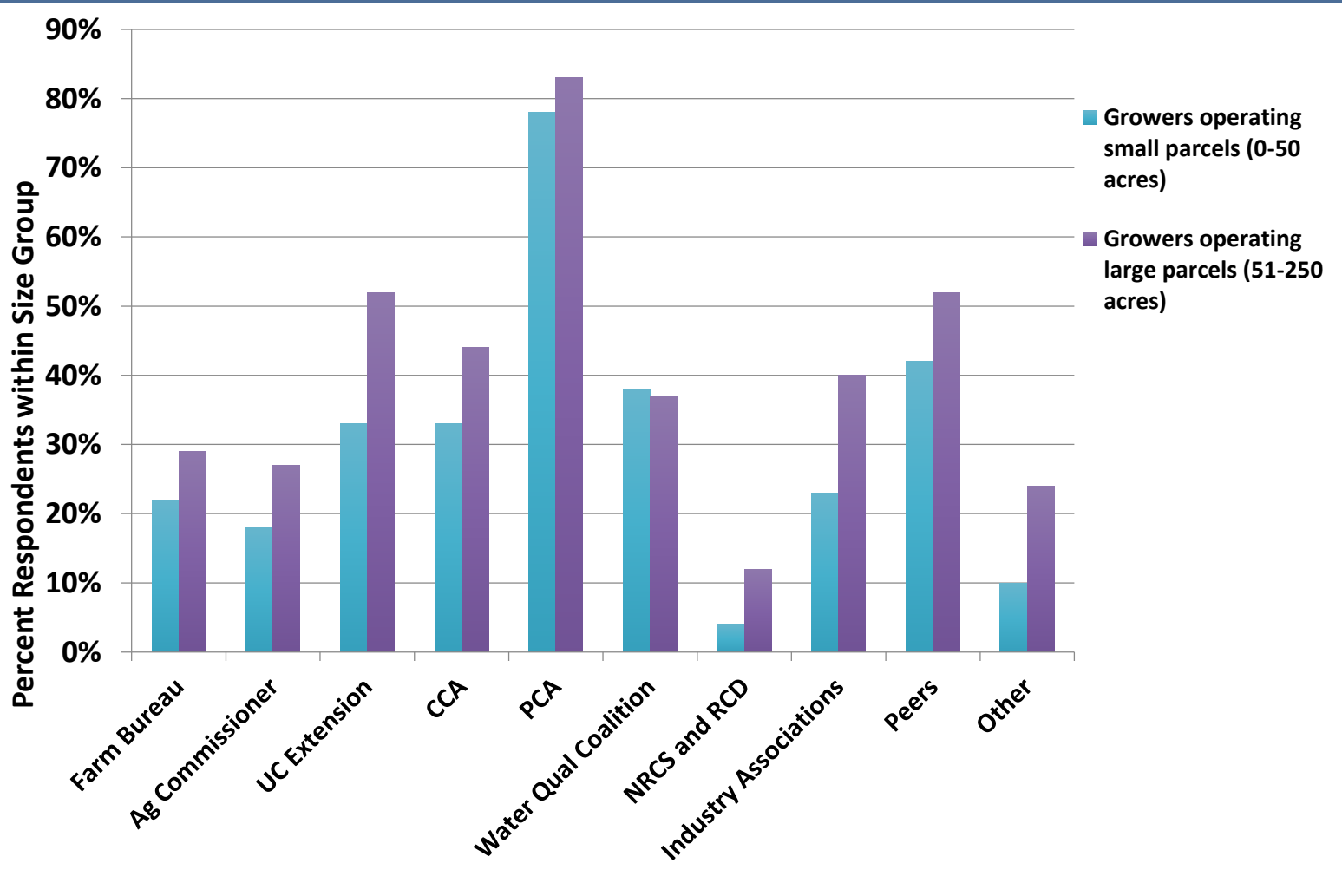
# Preliminary Results | Winter 2017 Survey

“Do you consider any of the following benefits when making decisions about fertilizer, soil and irrigation practices?”



# Preliminary Results | Winter 2017 Survey

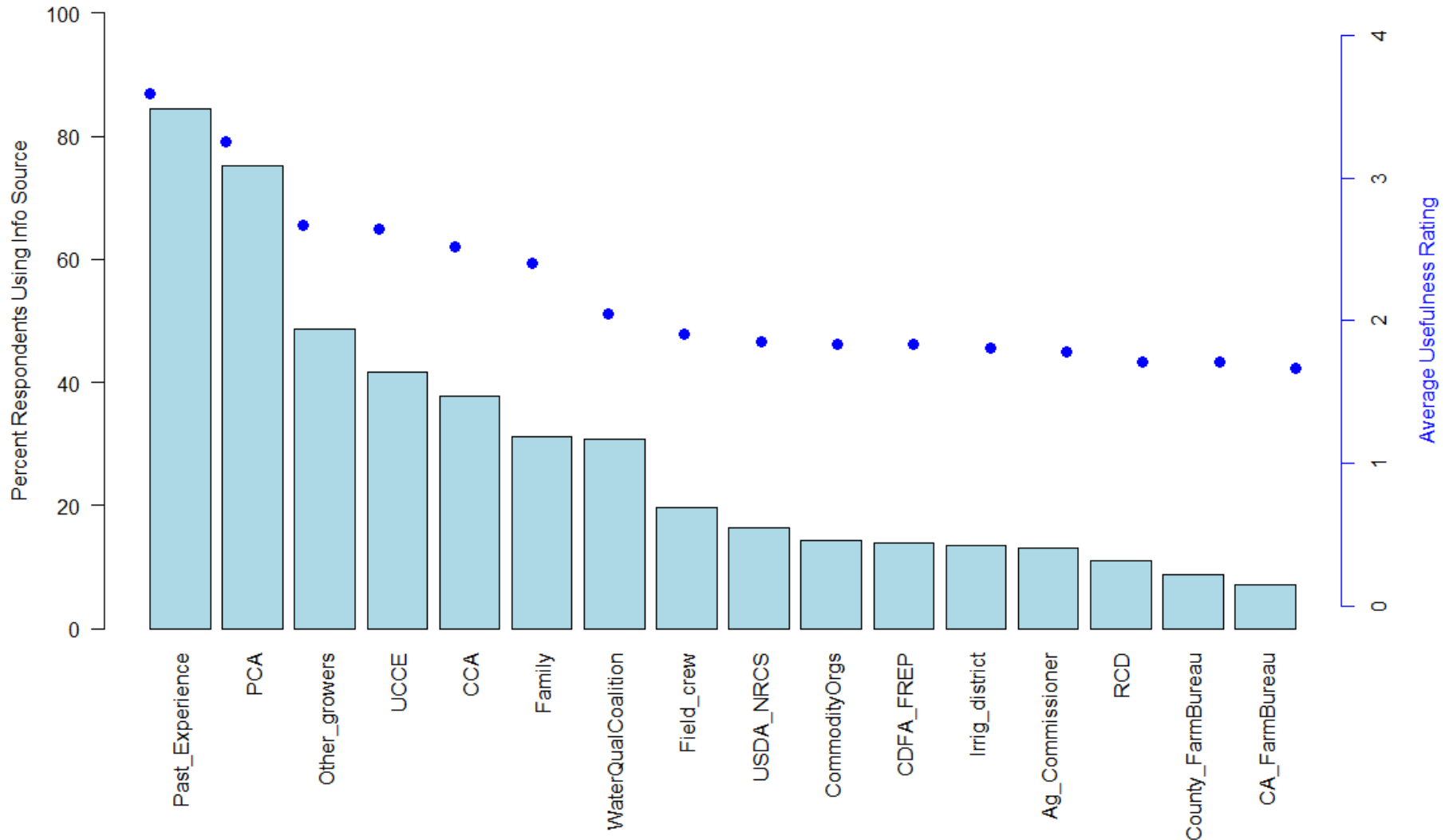
“Do you seek information on fertility management practices from any of the following sources?”





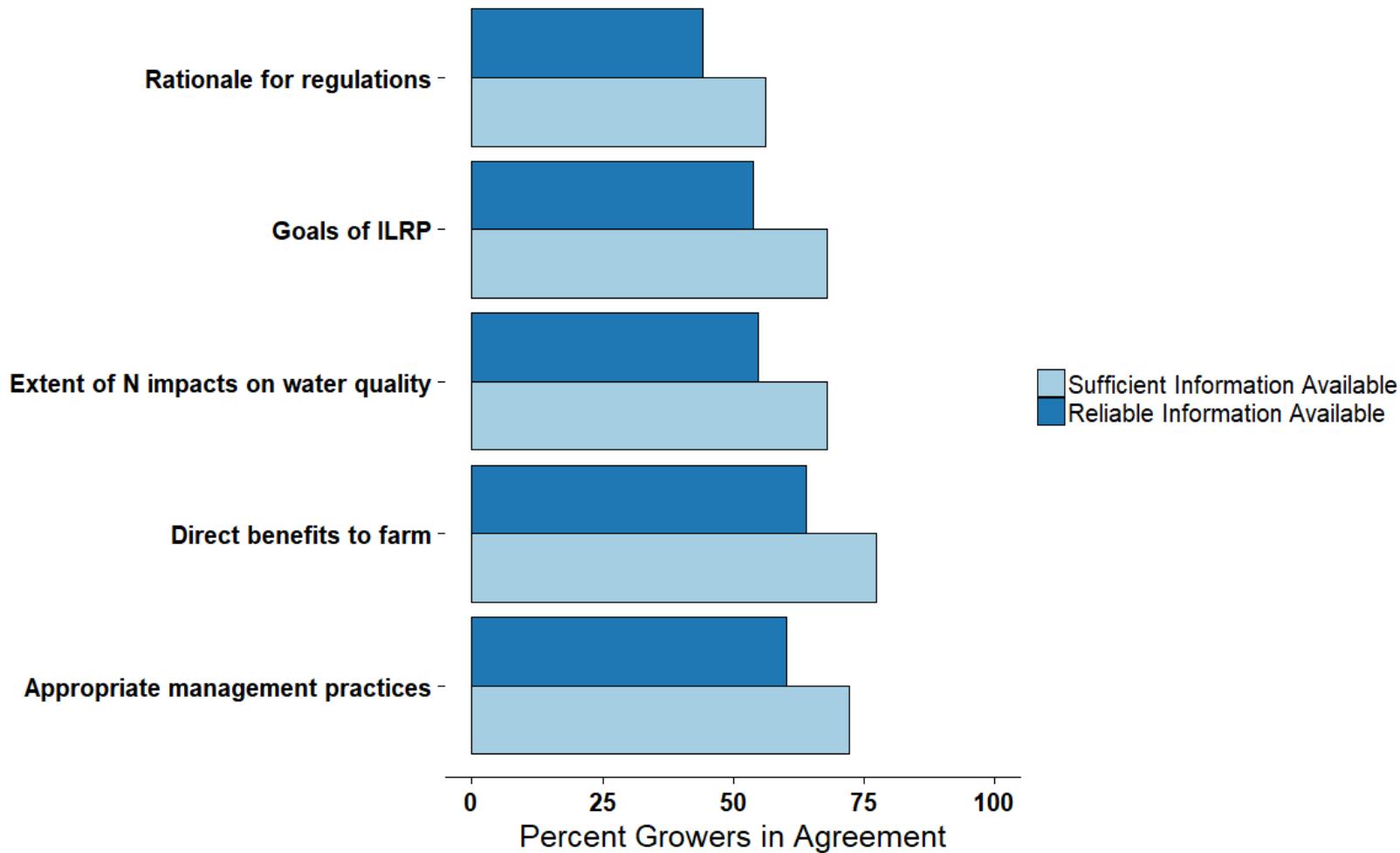
# Preliminary Results | Spring 2018 Survey

## Familiarity Breeds Trust

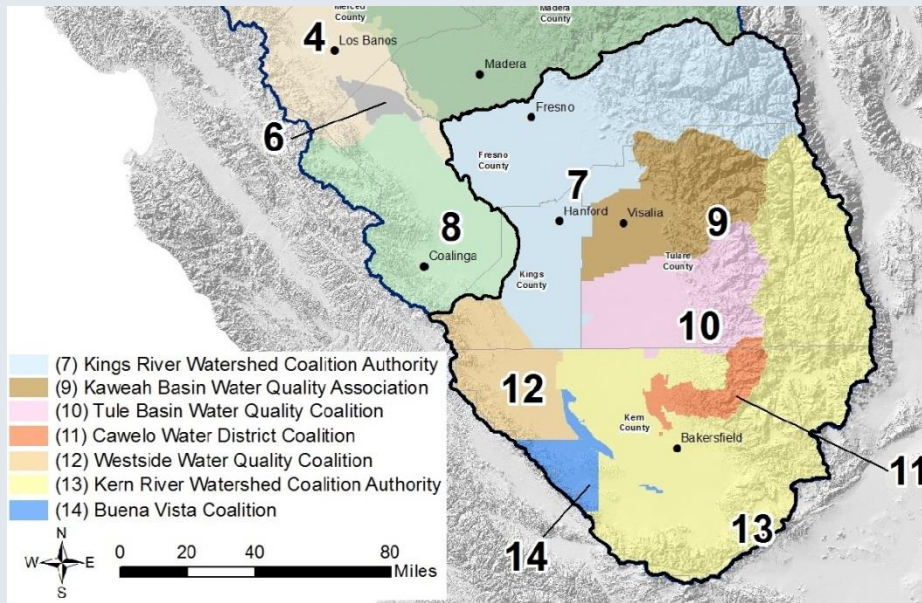


# Preliminary Results | Spring 2018 Survey

## Information Availability and Reliability



# Winter 2018 Survey

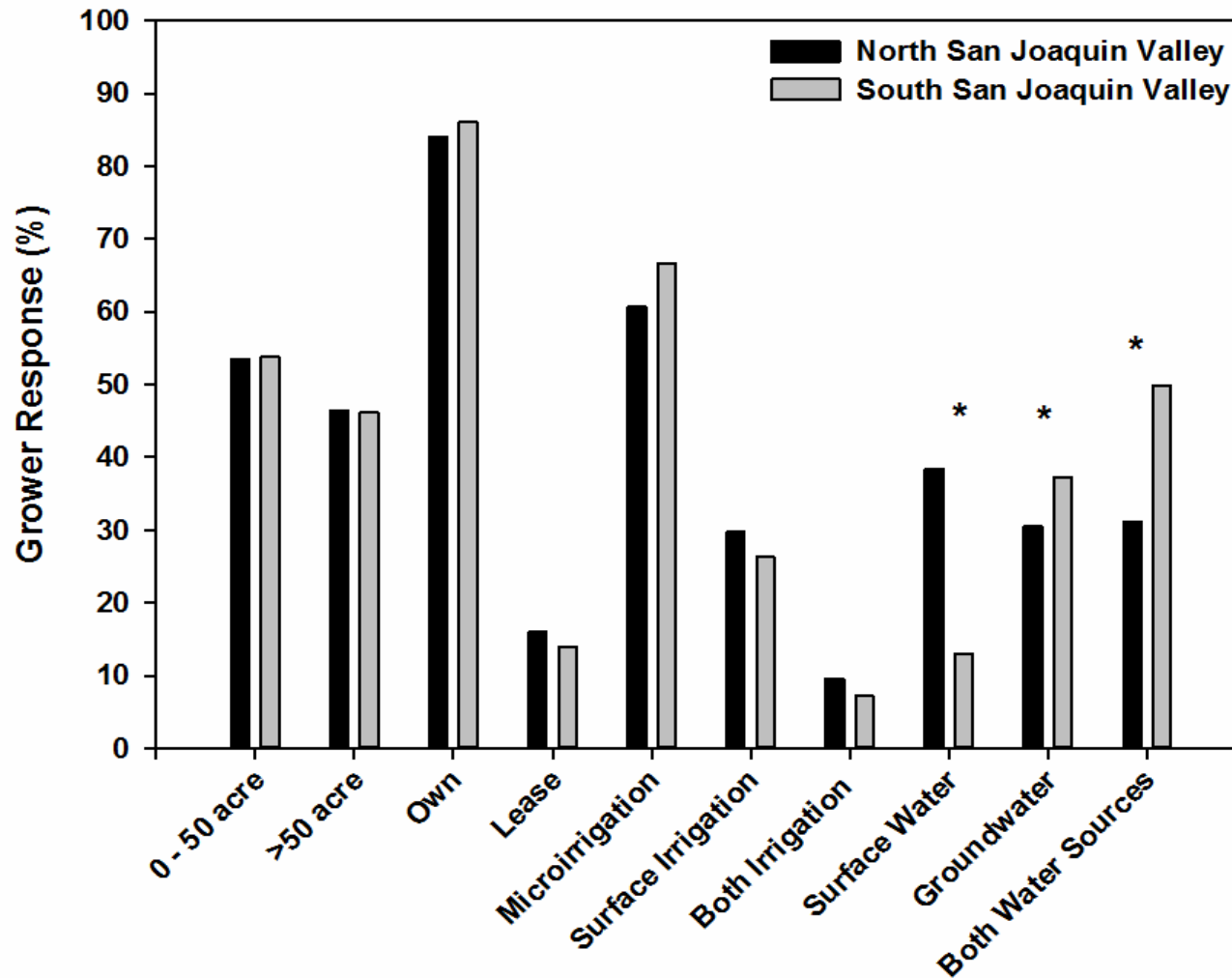


## Winter 2018

**531 growers participated in the S San Joaquin Valley at annual Water Quality Coalition Meetings**

# Preliminary Results | Winter 2018 Survey

## Differences in Water Sources



# Preliminary Results | What we have learned so far

- Connection between **irrigation** practices and N management is important and needs more attention
- **Uncertainty** around practices is a significant barrier to adoption that needs to be better understood
- Demand exists for **outreach** and **extension** around N management practices, especially with emphasis on their **on-farm benefits**
- Purpose, extent and goal of **N regulations** are insufficient or not well-communicated leading to **lower reliability**

# Acknowledgements

- CDFA FREP
- Parry Klassen – E San Joaquin WQC
- Mike Wackman – SJDC WQC
- Bruce Houdesheldt – Sac Valley WQC
- Kandi Manhart - Colusa Glenn SWP
- John Dickey – SSJV MPEP
- NRSC Conservation Innovation Grant
- Grower Participants

Research support from:



# Any Questions?

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