

# UA Ag Water app-language expansion and practical grower-inspired improvements

## SUMMARY

Several tools have been developed in recent years to make it easier for growers to understand their microbial water quality profile (MWQP) as stated in the Produce Safety Rule and to determine if water meets the standards for unrestricted application to produce before harvest. The tools were also designed to assist with making food safety management decisions if water does not meet the standards, including calculation of die-off requirements. While extremely useful, the initial development of these tools was restricted to English only and had not been broadly evaluated by a diversity of grower/users of the tools attempting to implement the FSMA Produce Safety Rule. The University of Arizona team worked over the course of one year with the original Ag Water app developer to improve the functionality of the Ag Water app, based on grower feedback, as well as to translate all tools into Spanish.

## OBJECTIVE

To improve functionality of the Ag Water app, based on real-world grower feedback, as well as deploy a fully functioning Spanish version of the app and associated on-line tools developed by the University of Arizona.

## METHODS

**Spanish Translation.** The University of Arizona team worked to improve the functionality of the Ag Water app, based on grower feedback. Additionally, the UA worked with established Spanish translators and local grower stakeholders in Arizona, California, and Mexico to review and revise the translations to ensure appropriate word usage and accurate word meaning.

**Functional Improvements.** The research team responded to a list of grower suggestions and feedback collected over the last year on the overall functionality of the app, including look and feel as well as the need for improved data importing and report printing functions.

**Dissemination.** After functional improvements and translations were completed, the project PI and team members hosted a series of “open house” events to evaluate the enhanced version of the Ag Water app as well as provide additional feedback to the developer for final consideration.

## RESULTS TO DATE

### Spanish Translation:

- The Ag Water app and the Online Calculator have been translated in entirety. The app includes a new Spanish link on the sign-in page, directing users to the Spanish version of the app (Figure 1).

### YouTube Tutorial Videos:

- YouTube tutorial videos were developed as a project add-on to improve user experience and provide a visual demonstration of key app features (Figure 2). Four videos were developed in both English and Spanish and were embedded on each help page within the app (Figure 3 and 4).

### Functional Upgrades:

- Users can now calculate MWQP for both surface water and ground water sources.
- The overall appearance of the app was improved to include a new theme with brighter colors and includes screens to improve navigation throughout the app.
- New formatting includes the Ag Water logo and an organized table displaying water sampling values and results, improving the printout when being used for audit or record-keeping purposes.

## BENEFITS TO THE INDUSTRY

During this project, the team conducted formal trainings and reached over 500 individual growers and industry members. The developed tools have also been distributed through numerous industry trade groups and are currently being used in the Produce Safety Alliance Produce Safety Rule grower and Train-the-trainer certified trainings across the country, thus indicating the usefulness of these grower-focused tools in industry. To date, the Ag Water app and Online Calculator had collectively received 53,964 page views and 9,283 active sessions. **These recent values represent an increase of over 1,000% in page views and an increase of nearly 800% in active sessions over the last year alone!**

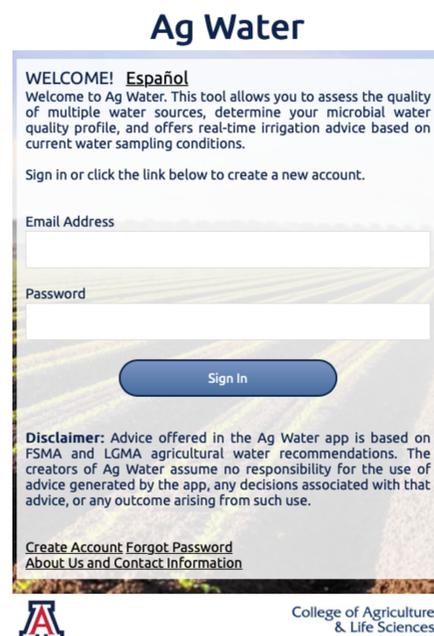


Figure 1. Sign-in page with new Spanish link: Español

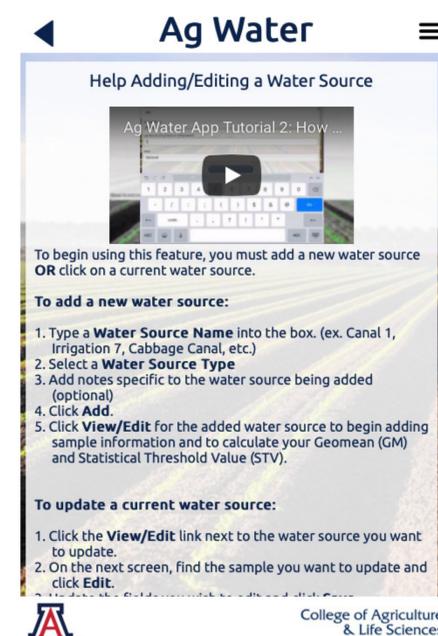


Figure 2. Example of video tutorial access on key app page

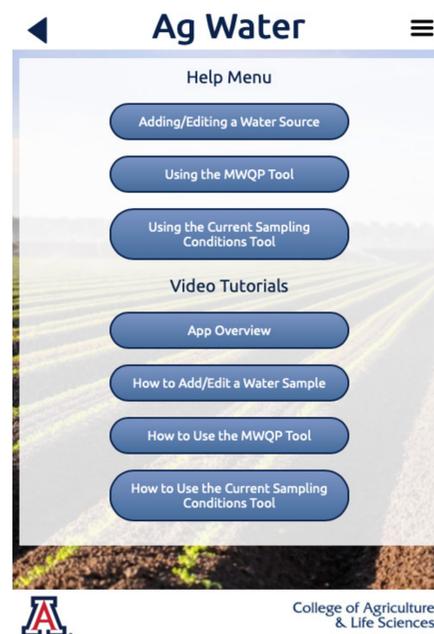


Figure 3. English help page with embedded video tutorials



Figure 4. Spanish help page with embedded video tutorials



**CONTACT** Channah Rock, PhD  
University of Arizona  
Maricopa Agricultural Center  
E: Channah@cals.arizona.edu

**AUTHORS** Natalie Brassill and Dametreea Carr  
University of Arizona  
Maricopa Agricultural Center

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