

BMPs & Precision Ag Tools

Reducing Inputs While Maintaining Yields

Results of a USDA/NIFA study at the University of Georgia Stripling Irrigation Research Park (SIRP) show that Best Management Practices (BMPs) using precision agriculture tools can reduce fertilizer and irrigation water use without reducing yields.

THE STUDY

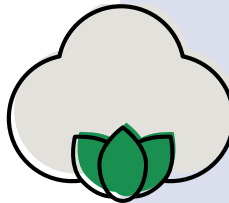
- Three-year cotton-peanut-corn rotation; crops planted into rye cover crop using strip tillage.
- Fertilization method: traditional vs fertigation (application of liquid Nitrogen (N) through irrigation system) on cotton and corn.
- Irrigation scheduling: calendar, smart irrigation app, soil moisture sensors (SMS).

KEY FINDINGS



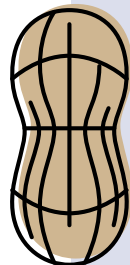
CORN

- Fertigation resulted in similar yields (-1%) to traditional fertilization methods while using 17% less N.
- Use of corn app and SMS reduced irrigation by 49% and 51%, respectively, compared to calendar scheduling while maintaining similar yields (3%).



COTTON

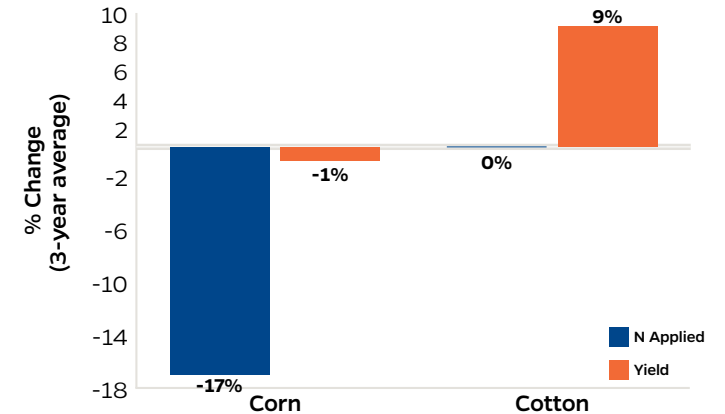
- Fertigation resulted in a 9% yield gain but no reduction in N rates when compared to traditional fertilization methods.
- Use of cotton app and SMS reduced irrigation by 29% and 54% compared to calendar scheduling while increasing yield by 2% and 13%, respectively.



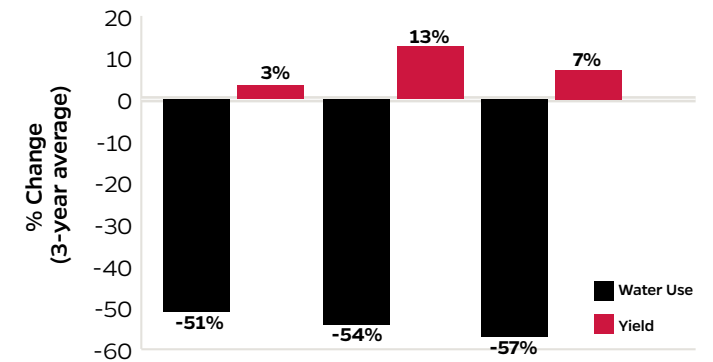
PEANUT

- Use of SMS reduced irrigation by 57% compared to calendar scheduling and resulted in 7% higher yield.

Fertigation Yield and N Use Relative to Traditional Methods



SMS Yield and Water Use Relative to Calendar



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