

Best Management Practice Evaluation in the Lower Flint River Basin

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RESEARCH GOALS

Evaluate “cutting-edge” management strategies / tools with potential to improve nitrogen and water use efficiency

- ▶ Compare to standard practices
- ▶ Corn, cotton, peanut rotation



Fertigation

METHODS / APPROACH

Management Strategies

- ▶ Cover crops with strip tillage
 - ▶ (improve NUE and WUE)
- ▶ Fertigation on cotton and corn to
 - ▶ (improve NUE)
- ▶ NDVI-based side-dress N rates for cotton
 - ▶ (improve NUE)
- ▶ Advanced irrigation scheduling (apps, sensors)
 - ▶ (improve WUE)

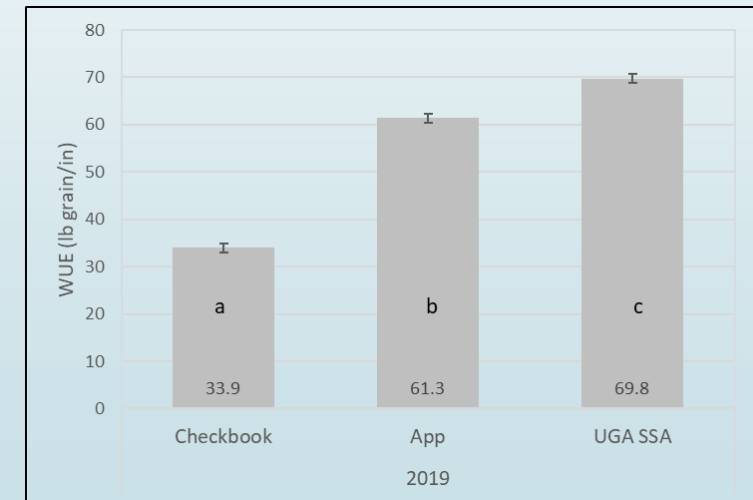
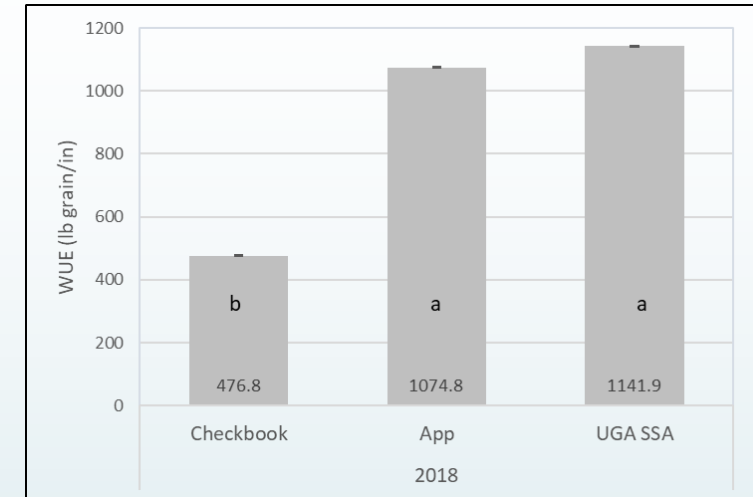


NUE = nitrogen use efficiency
WUE = water use efficiency

KEY FINDINGS

Corn

- Corn responding well to fertigation at lower N rates than conventional
- Corn App performing well for irrigation scheduling
- Sensors performing well for irrigation scheduling
- Higher NUE and WUE by using “Cutting-edge” management strategies



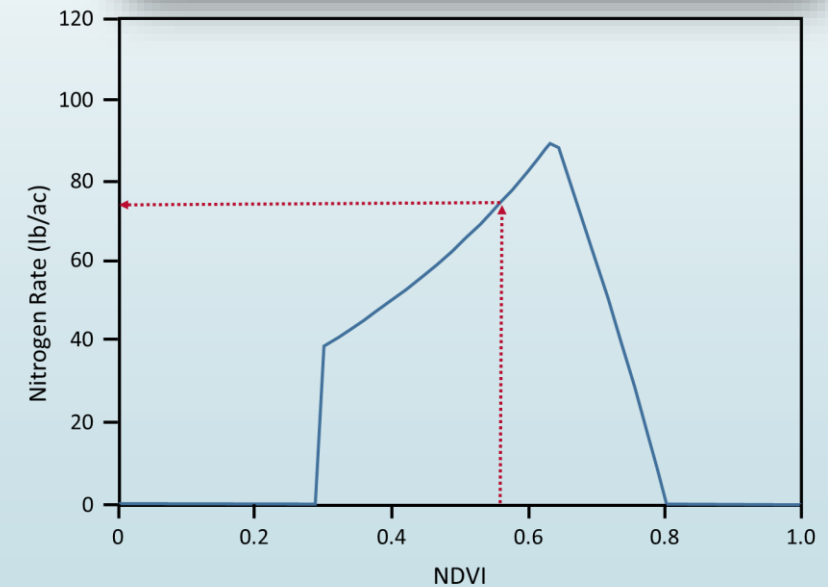
KEY FINDINGS

Cotton

- ▶ Cotton did not respond well to fertigation
- ▶ Highest NUE when using NDVI for scheduling side-dress N
- ▶ Both sensors and app scheduling had much higher WUE than traditional methods

Peanut

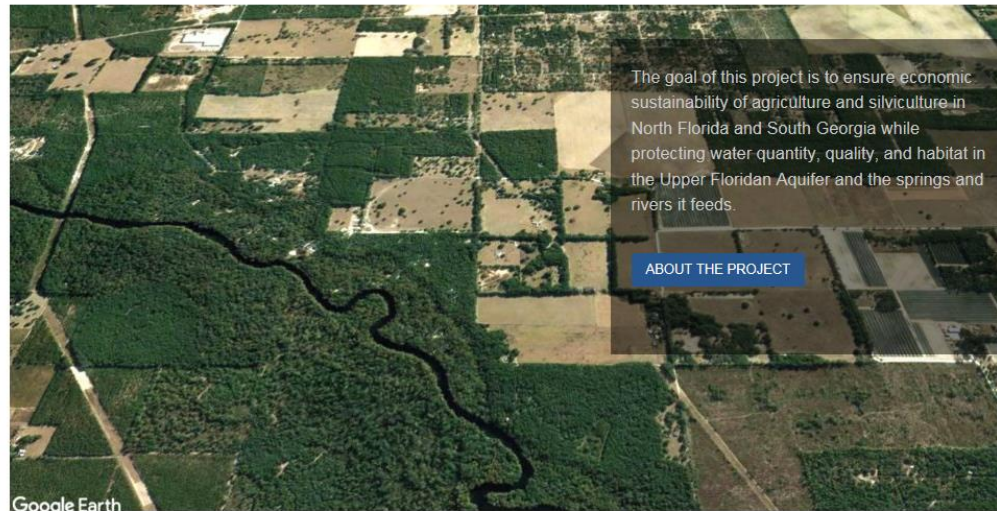
- ▶ No fertilizer treatments – nine irrigation treatments
- ▶ Most advanced irrigation scheduling methods have higher WUE than traditional methods



TOPICS YOU WANT FEEDBACK ON FROM PAC

- ▶ Irrigation scheduling apps result in the same or better yields and WUE than sensor-based scheduling.
 - ▶ Why is adoption low?
 - ▶ How can we increase adoption?

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<http://Floridanwater.org>



The Floridan Aquifer Collaborative Engagement for Sustainability (FACETS) project is a Coordinated Agricultural Project funded by the USDA National Institute of Food and Agriculture. The FACETS project brings scientists and stakeholders together in a participatory process to develop new knowledge needed to explore tradeoffs between the regional agricultural economy and environmental quality; understand changes needed to achieve agricultural water security and environmental protection; and to implement desired changes.

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