### General System Information

**Pivot Description**
- **Pivot Make:**
- **Controller Make:**
- **Sprinkler Make:**
- **Sprinkler Model:**
- **Pivot Age:** 8 yr
- **Sprinkler Age:** 3 yr
- **Number of Spans:** 3
- **Sprinkler Height:** 7 ft

**Pivot Options**
- **Chemigation/Fertigation:** Fertigation
- **Endgun:** Yes
- **Regulators:** Yes, bottom of drops
- **Swing Arm:** No
- **Variable Frequency Drive:** No

**Pump Description**
- **Water Source:** Groundwater/Well
- **Booster Pump:** No
- **Phase Converter:** No
- **Variable Frequency Drive:** No

**Energy Consumption**
- **Energy Source:** Electricity - Three Phase
- **Assumed Energy Cost:** $0.057/kWh
- **Metered Rate:** 22.2 kWh/hr
- **Irrigation Cost:** $0.979/acre-inch
- **Irrigation Cost:** $36.63/inch @ 37 ac

**System Dimensions**
- **Wetted Area:** 37.4 ac
- **Machine Area:** 28.8 ac
- **Machine Travel:** 360 deg
- **Endgun Area:** 9 ac @100%
- **Machine Length:** 632.1 ft
- **Endgun Throw:** 88.1 ft
- **Wetted Radius:** 720.2 ft
- **Endgun Centerline:** 0 deg
- **Endgun Sweep:** 200 deg

**Flow Rate**
- **Design Flow:** 650 gpm
- **Meter Flow:** N/A
- **Caught Flow:** 584.7 gpm
- **App. Rate:** 15.63 gpm/ac
- **App. Rate:** 0.83 in./day
- **App. Rate:** 5.8 in./wk
- **App. Depth:** 0.228 in.@100%

**Pressure**
- **Design:** 25 psi @ pivot
- **Observed:** 38 psi @ pivot
- **Observed:** N/A @ end

Test conducted by: Clemson Extension
Test Overview
Tested By: Karen Jackson
Tester Email: karen7@clemson.edu
Pivot County:
Test Date/Time:
Catch Diameter: 2.75 in.
Catch Spacing: 12.6 ft
Timer Setting Used: 90%
Wind: 5 mph, From E
Irrigation Uniformity

Catch Cups

Overall Avg.
(0.253 in.)

Avg. Inside Last Tower
(0.252 in.)

Endgun Arc

Irrigation Uniformity
CU_HH to Last Tower: 0.92
CU_HH Total System: 0.87
LQDU to Last Tower: 0.82
LQDU Total System: 0.76

CU_HH Interpretation
Excellent. Sprinkler package changes are not required.

Test conducted by: Clemson Extension

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COOPERATIVE EXTENSION
**Estimated Cost of Suboptimal Irrigation**

Estimates below are as compared to a system with CU_HH = 93%. Estimates do not consider uniformity beyond the last tower. Assumed irrigation cost: $7.00 / ac-in. Estimated cost to retrofit sprinkler package for this pivot at $5/ft is $2,982. Costs to retrofit are dependent on a number of factors...consult your supplier. Estimated payoff period for retrofitting: 23.6 years.

<table>
<thead>
<tr>
<th>Crop Name</th>
<th>Assumed Yield Benefit from Irrigation</th>
<th>Assumed Crop Value</th>
<th>Assumed Annual Irrigation, Inches</th>
<th>Annual Cost of Under-Irrigation</th>
<th>Annual Cost of Over-Irrigation</th>
<th>Total Sub-Optimal Irrigation Cost</th>
<th>Total Sub-Optimal Irrigation Cost per ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn for grain</td>
<td>67.7 bu/acre</td>
<td>$3.98 / bu</td>
<td>7.6</td>
<td>$136</td>
<td>$19</td>
<td>$155</td>
<td>$5.39 / ac</td>
</tr>
<tr>
<td>Cotton</td>
<td>232.5 lb lint/acre</td>
<td>$0.678 / lb lint</td>
<td>7.0</td>
<td>$80</td>
<td>$18</td>
<td>$97</td>
<td>$3.38 / ac</td>
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<tr>
<td>Full Crop Rotation</td>
<td></td>
<td></td>
<td>7.3</td>
<td>$108</td>
<td>$18</td>
<td>$126</td>
<td>$4.39 / ac</td>
</tr>
</tbody>
</table>

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