

## Smart Water Application Technologies™ (SWAT™) Performance Summary

Testing Agency:	<b>University of Florida</b>	<a href="http://abe.ufl.edu/mdukes/">http://abe.ufl.edu/mdukes/</a>
Testing Period:	<b>January 2010 to May 2011</b>	
Product Type:	<b>Immediate response rainfall shutoff device</b>	
Product Make and Model:	<b>Hunter Wireless Rain-Clik™</b>	
Product Description:	<b>Rain sensing device that interrupts irrigation system operation with minimal rainfall</b>	

### SWAT Protocol\*: Rainfall Shutoff Devices 3<sup>rd</sup> Draft Testing Protocol (October 2009)

This protocol provides a standard procedure for evaluating the performance and reliability of rainfall shutoff devices, with respect to the rainfall depth before rainfall shutoff devices switch to interrupt mode, and the accuracy, precision, and variability of their set points. Tests are performed by attaching eight rainfall shutoff devices of a specific brand to a datalogger and placed under a rain simulator. Each sensor is tested 8 times for each threshold setting. Results indicate the ability for the device to reliably bypass irrigation during rainfall events that meet or exceed the set threshold.

\*All SWAT protocols may be viewed at <http://www.irrigation.org/swat/>

### SWAT Performance Report: Hunter Wireless Rain-Clik™ Sensor

Set Points	Immediate response sensor does not have adjustable set points
Average Rainfall Intensity (inches per hour)	1.26
Average Depth of Rainfall before shutoff (inches)	0.02
Average time to switch off based on rainfall intensity	61.3 seconds
Variability between sensors--Coefficient of Variation (%)	20.5
Accuracy(%)	Not applicable for immediate response sensors
Average	
Standard Deviation	n/a
Rainfall Events Not Detected (64 total tests performed)	1
Shutoff in the Absence of Rainfall (64 total tests performed)	0

### Manufacturer's Product Specifications and Features

[www.hunterindustries.com](http://www.hunterindustries.com)

Technology Used	Electrical Specification	Reset Time	Additional Information
Hygroscopic discs  <b>Models:</b> <ul style="list-style-type: none"> <li>• WR-Clik Wireless Rain Clik</li> <li>• WRF-Clik Wireless Rain/Freeze-Clik</li> </ul>	Receiver 22-28 VAC 100mA from transformer  UL listed  Low power radio frequency using 433.92 MHz band  Transmitting range up to 800 feet line of sight  Wiring: normally closed or normally open	Quick Response unit 4 hours maximum under dry conditions for reset  3 days maximum under dry conditions for total rainfall compensation unit  Adjustable vent ring to adjust reset delay	Receiver includes built-in bypass switch.  Works with all standard controllers.  5-year warranty (10-year battery warranty)  No required maintenance  Optional gutter mount included