FACT SHEET

SWAT Testing Protocol and EPA WaterSense Labeling Program

Genesis of the SWAT Initiative: The Smart Water Application Technologies initiative began during 2002 as a collaboration of water purveyors and the irrigation industry. Under the auspices of the Irrigation Association, SWAT came about in response to emerging water-efficient technologies, such as “weather-based irrigation controllers.” SWAT stakeholders set out to assess and document product performance via SWAT developed testing protocols.

Goals for SWAT Testing – A Utility Perspective: Water purveyors across the nation run local water conservation programs that promote best practices for water efficiency. Subject to local availability, many of these programs offer financial incentives encouraging the public to purchase water-efficient products. Thus, consumers in various markets have access to utility-sponsored incentives for a variety of water-efficient irrigation products, including weather-based irrigation controllers. As part of their due diligence in sponsoring such incentive programs, water purveyors typically rely on third-party, independent product testing data to validate the water-saving potential of a given technology. Since the emergence of weather-based irrigation controllers, utilities have looked to SWAT’s testing protocol (and its published testing results) as the source for performance data on weather-based irrigation controllers.

EPA’s WaterSense Labeling Program: In 2006, the Environmental Protection Agency created a national program called the WaterSense program to promote water efficiency similar to Energy Star for energy efficiency. In 2012, EPA’s WaterSense labeling program began listing weather-based irrigation controllers. While the EPA’s WaterSense labeling criteria for weather-based controllers are based on SWAT’s most current testing protocol, it is important to note that the two protocols are not identical and they are administered separately. The WaterSense program labels products without providing the results from the tests to the consumer. The label is given if the product has at least 80 percent irrigation adequacy and less than ten percent excess irrigation for any particular landscape zone with less than five percent excess averaged for all irrigation zones.

Weather-Based Controller Specifications: The EPA WaterSense specification criteria modified the SWAT testing protocol as follows:

1) Minimum Runtimes: All runtimes (irrigation cycles) that occur during the test period must be greater than three minutes in duration.

2) Missing Data from the Reference Weather Station: Provisions are provided for missing ET₀ and rainfall data but no more than three days in total during the test period.

3) Rainfall Requirement: There shall be at least four individual days during the test period with 0.10 inches or greater of gross rainfall for the test to be considered valid.

4) Order of Operations to calculate the water balance: The order of operations implemented by EPA WaterSense program shall be ET₀, irrigation, then rainfall. (This differs from the order as designated in the SWAT protocol where it is ET₀, rainfall then irrigation; to maximize the benefit of natural precipitation.)

Summary: SWAT has worked collaboratively with EPA to use SWAT developed protocols as the basis for WaterSense labeling specifications for irrigation products. Since testing results reported through one program are not readily transferrable to the other, SWAT encourages water purveyors to review their incentive eligibility requirements and to consider including both SWAT tested products and EPA WaterSense labeled products if they meet their program requirements.