

AgriLife Extension sprinkler system lab to receive certification

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Lab will be soon certified to test products for EPA WaterSense label



The lab that Charles Swanson, Texas A&M AgriLife Extension Service irrigation specialist, College Station, manages will soon be certified to test pressure-regulated landscape sprinklers. (Texas A&M AgriLife Extension Service photo by Robert Burns)

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COLLEGE STATION – New lawn sprinklers have built-in pressure regulators, but how accurate are they?

That's the question he will soon be able to answer, said Charles Swanson, Texas A&M AgriLife Extension Service irrigation specialist, College Station.

Swanson manages the Irrigation Technology Programs Lab of the department of biological and agricultural engineering department at Texas A&M University, College Station.

Originally, Swanson and Dr. Guy Fipps, AgriLife Extension irrigation engineer, College Station, set up the lab in 2008, to test “smart” weather-based irrigation controllers, Swanson said.

Recently, the lab completed all the requirements needed to be certified by the International Code Council to test landscape irrigation products, he said. The certification is required by the Environmental Protection Agency for labs conducting WaterSense product testing for manufacturers. This includes irrigation controllers, soil moisture sensors and sprinklers.

“WaterSense is a partnership with EPA to protect the future of our nation’s water supply,” according to Swanson. “They do this by offering people a simple way to use less water with water-efficient products, including new home designs and services,” Swanson said.

Products that earn the WaterSense label have to be certified to be at least 20 percent more efficient than similar products without sacrificing performance, he said.

“People may have heard or seen WaterSense-labeled products in the market already,” Swanson said. “Many household water fixtures like low-flow toilets, faucets and showerheads are WaterSense labeled. Now WaterSense is starting to focus its attention on landscape irrigation by identifying products that can save consumers water.”

Generally, more than half of municipal water supplies in the summer are used to irrigate outdoor landscapes, he said.

Though Swanson and Fipps had been testing “smart” irrigation controllers since 2009, it wasn’t until 2011 that the WaterSense program began testing and labeling them, Swanson said.

“Some people refer to these as ‘ET-based or evapotranspiration controllers,’” he said. “Once programmed for your landscape, these controllers calculate how much water your landscape needs, increasing and decreasing runtimes based on the weather factors such as temperature and rainfall.”

Swanson’s lab certification will allow him to work with manufacturers to test or retest their controllers for the WaterSense label.

“Controllers are not the only product being tested in our lab that can help consumers save water,” he said. “There are other newer technologies like soil-moisture sensors and pressure-regulated sprinklers that we’ll also be certified to test for the WaterSense label.

“Soil-moisture sensor technologies can be a great tool for managing irrigation. You set how dry you want the soil to get before it allows the irrigation controller to turn on. Much like setting the thermostat on your home air conditioner. The lab is currently in its second phase of testing a proposed protocol for soil-moisture sensors.”

As beneficial as smart controllers and soil-moisture sensors promise to be, if the irrigation system has poor coverage, then it will still not apply the correct amount of water, Swanson said.

“Many irrigation systems have improper coverage, which is often the result of incorrect operating pressure,” he said. “New types of sprinklers have built-in pressure regulating devices that help them operate closer to the manufacturer’s recommendation, which in theory improves efficiency.”

Swanson and Fipps lab is currently testing 25 sprinklers from five manufacturers, they said.

“The purpose of this phase of testing is to help the EPA WaterSense program determine the testing specifications and performance criteria for these sprinklers to earn the WaterSense label,” Fipps said.

“We know these products have great water conservation potential,” Fipps said. “Field analysis at a commercial site in 2013 showed that converting to pressure-regulated sprinklers increased the application uniformity by 27 percent and decreased water use by 23 percent.”