This year, three controllers consistently irrigated in excess of ETc even though more than 5 inches of rainfall occurred during the study. The causes of such excessive irrigation volumes are likely due to improper ETc values and/or insufficient accounting for rainfall.

Three controllers were equipped with tipping-bucket rain gauges which measure actual rainfall and six controllers were equipped with rainfall shutoff sensors as required by Texas landscape irrigation regulations. Rainfall shutoff sensors detect the presence of rainfall and interrupt the irrigation event. During the 2011 evaluation period, below average rainfall occurred as the result of a historic drought. The spring period had the most rainfall (2.83 inches), and no major differences in performance observed between controllers using rain gauges and those using rainfall shutoff devices.

This is in contrast to the 2010 study during which over 17 inches of rainfall occurred and controllers using rain gauges applied irrigation amounts much closer to the recommendations of TexasET.

For a controller to pass our test, it would need to meet plant water requirements (TexasET recommendations) for all six stations. Of the nine controllers tested, none successfully passed the test during all three irrigation season. However, one controller passed for the fall irrigation season. Results over the past 3 years have consistently shown that the majority of controllers over-irrigate (i.e., apply more water than is reasonably needed).

Generally, controllers with on-site sensors performed better and more often irrigated closer to the recommendations of the TexasET Network than those controllers which have ETc sent to the controller.

Current plans are to continue evaluation of controllers into the 2012 year. For the 2012 study, three controllers will be replaced with newer models to reflect upgrades in software or sensor technology.

While water savings shows promise through the use of some smart irrigation controllers, excessive irrigation is still occurring under some landscape scenarios. Continued evaluation and work with the manufacturers is needed to fine tune these controllers even more to achieve as much water savings as possible.