



## Best Management Practices for New York State Golf Courses

### Irrigation System Performance

Properly working systems are necessary for efficient irrigation. Irrigation audits can be conducted to assess the system function, ensuring that the irrigation system works reliably and cost effectively. The Irrigation Association has published irrigation audit guidelines ([http://www.irrigation.org/Resources/Audit\\_Guidelines.aspx](http://www.irrigation.org/Resources/Audit_Guidelines.aspx)). The following are common measures of system performance used in irrigation audits:

**Coefficient of Uniformity (CU).** CU measures system performance by how widely a system varies in distribution. A CU of 100% means that a system is uniform. A CU of 84% or better is considered acceptable for high value products. Because the CU is calculated with the absolute value of the deviations, the score does not indicate whether the system is over- or under-watering. In addition, the score does not indicate what section of the area tested is not performing.

**Distribution Uniformity of the Lowest Quartile (DULQ).** The most commonly used calculation to determine uniformity of a sprinkler layout, DULQ is the ratio of the average measurements in the lowest 25% of samples to the overall average of all samples expressed as a percentage. For example, a DULQ of 60% means that the lowest 25% of the samples measured only received 60% of the average water applied. Some resources suggest that a DULQ of 65% or less is poor, 75% is good, and 85% or more is excellent.

**Scheduling Coefficient (SC):** measures the average water applied to the driest, most critical areas of an area under test and compares to the average. An SC of 100% implies the distribution is uniform. An SC of 120 % indicates that the average was 120% more water applied than the driest area. The SC is often used to adjust run times to ensure that the driest areas receive the required scheduled water replacement. The disadvantage of this method is that all other areas receive 20% too much water, increasing the risk of runoff and leaching.



**Regular irrigation system maintenance helps to conserve water. Source: Frank Rossi.**

## Best Management Practices for New York State Golf Courses

---



Regular irrigation system auditing ensures uniform application. *Source:* Frank Rossi.