

BEST PRACTICES



NEW YORK STATE BEST MANAGEMENT PRACTICES FOR GOLF COURSES

Drips



Water Budgeting

One of the Irrigation BMP's for NYS Golf Courses states:

Determine accurate supplemental water needs based on appropriate climate and soil data.

How can turf managers, golf course owners or regulators determine whether water is being used efficiently? How can they know when climate is driving water use, or when other factors are involved? Against which standard should water use be compared?

A growing number of regulators, legislators, turf managers and water use specialists are advocating water budgets as a means of monitoring water use. Find how to calculate yours @ <http://tinyurl.com/z2oka65>

How water budgets were calculated

The water budget (acre-feet/acre) for each respondent's location was calculated based on the Landscape Water Requirement (LWR) equation (Environmental Protection Agency 2014) shown below, with addition of a leaching fraction:

$$LWR = 1/DULQ \times [(ET_0 \times KL) - P_a] \times A \times C_u \times LF$$

Where:

- LWR = Landscape water requirement for the hydrozone (gallons/month)
- DULQ = lower-quarter distribution uniformity (dimensionless)
- ET₀ = Local reference evapotranspiration (inches/month)
- KL = Landscape coefficient for the highest water-using plant in that hydrozone (dimensionless)
- P_a = Allowable rainfall (determined by WaterSense as 26% of the



Guess it was a good idea?

Frank S. Rossi, Ph.D.

Editor and BMP Project Technical Advisor

Back from an excellent week at the 2016 Golf Industry Show in San Diego and fresh off an announcement at the show concerning the \$250,000 investment the PGA Tour was making to the Environmental Institute for Golf (EIFG) for of all things....Best Management Practices. Commissioner Finchem was quoted as saying, "We believe in the good work that golf course superintendents are doing every day to establish quality, healthy playing conditions for all golfers, while protecting our environment," said Finchem, PGA TOUR commissioner. "Best management practices will help us demonstrate that golf courses can deliver benefits to everyone in a community. This also represents a longstanding commitment to environmental excellence at our own TPC courses." This particular award will begin with a focus on states WITHOUT BMP's in place where Tour events are held.

Of course it is hard not to feel great for our BMP Project Team that had the foresight to see what appears clear to our most visible resource in golf, the PGA Tour, i.e., environmental stewardship is becoming a core principle and aspect of the modern game of golf, not just for turf. This is our chance to have the discussion with our golfers, club officials, and more importantly our community about the value of the golf course. Golf courses are vital greenspaces in an increasingly urbanizing world. Be sure you are aware of these important principles established in NY (1 of only 11 states to have them in place!). Its time for all NYS golf courses to become engaged in this process. Take the BMP Quiz and assessment today! The quiz is @ <http://tinyurl.com/hj6y7ul> and assessment @ <http://tinyurl.com/h9nncgy>



New York Environmental Leaders

Being recognized for environmental stewardship is an important aspect of industry public relations as well as educating the public on the environmental value of golf course landscapes. New York Environmental Leaders (NYEL) program provides recognition and incentives to businesses and organizations that are committed to sustainable practices and conserving New York's environment and natural resources. To become a member, businesses and organizations must demonstrate that they have a good record of compliance with environmental laws and regulations, a system in place for managing their environmental impacts, commit to future environmental performance improvements, and have a public outreach plan in place. NYEL members are eligible for numerous benefits, including becoming a priority for certain New York State technical assistance programs, gaining access to a NYEL contact within the Department to assist in your communications with the Department, and assistance meeting your sustainability goals from the NYS Pollution Prevention Institute. For more info <http://www.dec.ny.gov/chemical/103000.html>

Nitrogen Management

A Nutrient Management BMP states:

Supplement soil with appropriate rate and source of nutrients to maintain optimum availability and minimize off-site movement.

The two nutrients that most golf turf managers are challenged to utilize efficiently are Nitrogen (N) and Phosphorus (P) for a variety of water quality concerns including their mobility above and below ground after application.

Long Island has been a hot-bed of activity concerning these issues, particularly N as it has been shown to be a primary contaminant of groundwater (that most residents

rely on for water source) and the sensitive salt water estuaries that are being impaired by N.



p.25 LINAP: Targeting of private golf courses through education or regulatory standards to minimize fertilizer use. Depending on the watershed, golf courses can contribute significantly to the total nitrogen loading of an impacted estuary.

Cornell University scientists have been working on nutrient management issues on Long Island for more than 40 years due to the sensitivity of the environment and concern for groundwater contamination. In the late 1970's wells were found to be contaminated with Aldicarb (Temick), a commonly used insecticide in agriculture. Since that time there has been a constant stream of studies, reports, action plans, and regulations all attempting to determine source of pollutant and potential mitigation measures. This has been manifested in pesticides not being registered on LI, nutrients being restricted, monitoring wells being installed, etc. The last decade has seen a focus on imadicloprid (Merit) and N use. The most recent iteration of this issue is the Long Island Nitrogen Action Plan (LINAP).

The LINAP outlines how NYS funding (\$5 million) will be used to identify sources of N pollution and mitigation measures. Sewage treatment is considered to be a primary concern (almost 80% of the problem), but private golf is being singled out (see inset quote). Get the report at: <http://www.dec.ny.gov/lands/103654.html>