

**RAINY-SEASON TURFGRASS FERTILIZATION GUIDELINES
(UF-IFAS PROPOSAL), 27 May 2008, George Hochmuth, Michael Dukes, Jerry Sartain,
Laurie Trenholm)**

Guiding principles:

- UF/IFAS strongly supports using science to underpin sound guidelines for helping homeowners protect the environment, and achieve the enjoyment of their urban landscapes.
 - We believe these goals can be achieved without a total rainy-season blackout of turf/landscape fertilizers.
 - We believe research can identify those situations when fertilizers are needed and those when fertilizers are not needed.
- Minimize potential for N and P leaching or run-off from urban turf landscapes.
 - Research on nutrient leaching shows actively growing turf will either absorb most properly applied N fertilizer or else tie it up in the organic matter in the soil or thatch.
- Provide for reasonable turf growth for home owner satisfaction.
 - A total rainy-season ban on N fertilization may lead homeowners to over-apply fertilizer in early June, leading to potentially more fertilizer loss with the summer rains than properly fertilized healthy lawn grass.
- Minimize the loss of turf or decline in ground coverage
 - Lawn grasses require consistent fertilization to grow normally. Unfertilized turf will decline leading to poorer uptake of fertilizer when fertilization commences.
- Base guidelines on research to the extent possible.
 - There is adequate research in Florida to support the proposed rainy-season fertilization strawman guideline presented below. Research data is provided.
- More education and research is needed for best management practices for homeowners and turf professionals.
 - Education and incentives (with accountability) have proven to achieve the best results in changing behavior.

Strawman proposal from UF-IFAS regarding the rainy-season (“black-out”) period:

Allow a one-time application of controlled-release nitrogen fertilizer, not to exceed 1.0 lb N per 1000 sq. ft., during the rainy-season period to correct a professionally (county agent or BMP-trained turf professional) diagnosed nitrogen deficiency in the turf. This approach is consistent

with the UF-IFAS turf fertilization recommendations, based on more than 20 years of research. Nitrogen diagnosis would be by a standard, commonly used research color/quality rating scale from 1 (poorest growth) to 9, with 5.5 being the lower limit of the acceptable quality, leading to decline of turf coverage.

Comments and considerations on the proposed rainy-season fertilization blackout:

- Turfgrass needs consistent fertilization to grow normally and growing turf is excellent at absorbing nutrients. Most research shows little N leaching below a well-maintained turf that is fertilized (and irrigated) according to research-based recommendations.
- Inadequately fertilized (nitrogen in particular) turf will decline with time leading to weaker turf incapable of absorbing fertilizer rapidly (until the turf health is recovered). This is because the root mass declines rapidly in undernourished turfgrass.
- Treating N-deficient turf grass during a “blackout period” with other products, such as iron or potassium will not cure the underlying N deficiency and the turfgrass will continue to decline in ground coverage.
- Weak turf will lead to bare-soil areas where weeds will invade possibly leading the homeowner to consider herbicides to control the weeds. Bare ground patches also could lead to more N leaching when fertilizers are returned and also could lead to erosion and more runoff from the lawn. Turf acts to slow down sheet flow of water from the ground surface.
- Homeowners may over-apply N fertilizer in early June thinking that the extra N will last through the rainy-season period. This practice could result in considerable loss of soluble N to runoff and leaching, but could also be problematic with excessive amounts of controlled-release N products.
- If homeowners experience decline in turf coverage and quality due to N blackout, then there may be unintended consequences such as discrete fertilizer over-applications in an attempt to get the grass to recover rapidly-possible large leaching and runoff.
- Under the proposed blackout period of June 15 to September 15, fertilizer application could be resumed after September 15th. A possible problem here is that under-fertilized grass has been deficient and the root mass has declined. N-deficient grass is very slow to respond to fertilizer. Also grass root mass normally declines in the fall as days get shorter and cooler. Under this situation a homeowner could very likely over-fertilize the lawn to get it to green up in the fall. Increased leaching of N could occur, possibly more than would occur in the summer with a healthy turf.
- Any attempt to minimize N pollution from the urban landscape will be for naught if irrigation practices are not included in the guidelines. Running irrigation systems during the rainy-season period (when not needed) will intensify the leaching and runoff potential. Irrigation and fertilization go hand-in-hand. Properly fertilized and irrigated turf is one of the most environmentally sound plant systems available.

Considerations regarding urban turf irrigation as it relates to turf health and fertilization:

- The trend in the state points to severe water restrictions even during non-drought periods. Grass (and other plants) stressed due to minimal water allowed under water restrictions (or really watered on “your” day, rather than at the right time) could be further stressed if there is a nutritional deficiency.

- Day of the week watering restrictions encourage over-watering on “your day”. This could compound a problem with soluble fertilizer application being lost just before the blackout period.
- Proper irrigation management is needed for healthy turf and for preventing nutrient losses.

Considerations for the use of reclaimed water as a source of nutrients:

- In terms of reclaimed water, in most cases, the mass balance points to excessive amounts of water required to achieve even low recommended amounts of N due to the low concentration of N in reclaimed water.
- Possible build up of salt through the use of reclaimed water. But this might go either way. Salt doesn't seem to be a widely reported problem now.
- Unintended consequence of irrigating with reclaimed water is the contribution of nitrogen and other nutrients, not to mention other elements, during the non-growing, dormant period of landscape plants when these nutrients are not needed by the plants.
- Proper irrigation management with reclaimed water is required to prevent N leaching from over-application of water.