IFAS and FDEP Publications in Support of Strong Ordinance Provisions

Multiple IFAS and FDEP publications have been used to support the adoption of a strong, rainy season ban in urban fertilizer ordinances in the Central and South zones of Florida:

Rainy Season Application Bans

1. **2008 FDEP *Florida Friendly Best Management Practices for Protection of Water Resources by the Green Industries* (GI BMP Manual)** http://fyn.ifas.ufl.edu/pdf/grn-ind-bmp-en-12-2008.pdf

   P 39: BMPS FOR TURFGRASS AND LANDSCAPE FERTILIZATION: "**Use Fe and/or Mn instead of N** to enhance turfgrass color on soils having a pH greater than 7.0, **especially during times of enhanced rainfall**."

2. ***FDEP-IFAS FYN Handbook 2009 Edition*** The Florida Yards & Neighborhoods Handbook

   2009 FYN Yard Certification Checklist: Items to Qualify for a Florida Friendly Yard include:

   "If a lawn is present, **iron is used instead of nitrogen** to "green-up" the lawn **in the summer rainy season."**

3. ***General Recommendations for Fertilization of Turfgrasses on Florida Soils*** **SL 21** http://edis.ifas.ufl.edu/pdffiles/LH/LH01400.pdf

   P 4: "Many times turfgrasses, such as Centipedegrass, Bahiagrass and St. Augustinegrass, turn yellow during the summer due to lack of N fertilizer. However, **fertilization with N in the summer is not always desirable since this often encourages disease and insect problems**. Many times the addition of iron (Fe) to these grasses provides the desirable dark green color, but does not stimulate excessive grass growth which follows N fertilization."

4. ***Frequently Asked Questions about Florida-Friendly Landscaping*** **ENH 1113 Jan 2009** http://edis.ifas.ufl.edu/WQ144

   P 2: Question 3: **What are the best ways to prevent water pollution?** Bullet #5 "**Apply an iron source instead of additional fertilizer in the summer** to keep grass green without increasing growth."

5. **The *Florida Lawn Handbook*,** authors Laurie E. Trenholm and J. Bryan Unruh. The *Florida Lawn Handbook* details the growing season (months when fertilization is recommended) for the Central Region that includes February, March, April, May, October and November; all outside of the summer rainy season.

6. On January 15, 2013 UF-IFAS faculty presented research results that actually confirm the successful experience with rainy season bans. A **"Blackout Test" (Cisar)** showed that turf, growing in the region between Orlando to South Florida, can withstand the four months of summer fertilizer-

free without any meaningful decline in health. A separate study's results **(Sartain)** confirmed that the use of quality, higher percentage slow release fertilizer means that turf continues to be fed long after the last application prior to the beginning of summer. The link to these research results is: http://publicfiles.dep.state.fl.us/DEAR/nonpoint/WM869%20DATA/WM869%20Completed%20Studies%20Report%20May_1_2012.pdf Please especially see pages 76-91.

Excerpt from page 76:

However, UPCU1 provided more consistent turf quality relative to urea, which induced higher ratings immediately following applications but had lower quality in the last quarter of several cycles. Based on these data for a 6-month period of time, under urban fertilizer restrictions, UPCU1 may offer a legitimate alternative to frequent urea applications.

Excerpts from page 77:

More importantly, both yield and turf quality did not differ significantly ($P>0.95$) between UPCU2 and urea in the latter stage of each 120-d cycle (Table 55 and 56), indicating a good overall agronomic performance.

Both PCU and BS provided acceptable turf quality of comparable 150-d periods. Initial responses were considerably slower, 32 DAT for PCU compared to BS where quality was deemed acceptable 9 DAT, however, weighed against other SRNS, PCU stimulated superior quality ratings ($P<0.05$) for a large proportion of this cycle (Table 55). The data also indicates that all SRNS tested would be capable of sustaining adequate turf quality for the 120-d fertilizer 'black out' period imposed by certain local legislative bodies. Both PCU and BS at this rate provided adequate turf quality for an extra 30-d period, denoting the potential to reduce application rates to provide sufficient turf quality for enforced black outs.

Excerpt from page 82:

The preliminary data suggest that both BS and PCU applied before summer fertilizer "black out" periods at 147 kg N ha-1 may have limited environmental implications. Both sources resulted in lessthan 0.5% of applied N leached and produced good quality St. Augustinegrass for durations in excessof the 120-d 'blackout' period.

IFAS recommendations related to the use of 50% slow release nitrogen

1. ***FDEP-IFAS FYN Handbook 2009 Edition*** The Florida Yards & Neighborhoods Handbook

   P 25: "Slow and controlled release fertilizers provide nutrients to plant roots over an extended period of time. This allows you to fertilize less frequently – and to prevent nutrients from leaving your landscape and entering waterways, contributing to harmful algal blooms and other water quality problems…it's a good idea to look for a fertilizer with **higher amounts of slow-release nitrogen**."

P 26: "If using a quick release product, **apply only up to 0.5 pound of nitrogen per 1000 square feet.**"

2. **2008 FDEP *Florida Friendly Best Management Practices for Protection of Water Resources by the Green Industries* (GI BMP Manual)** http://fyn.ifas.ufl.edu/pdf/grn-ind-bmp-en-12-2008.pdf

   P 29: *Nitrogen Rate and Frequency*: "To limit the environmental impact of your fertilization program, **it is recommended that no more than 0.5 pounds of water-soluble N per 1,000 square feet be applied in a normal application.** Total N should be limited to 1 lb/1000 ft2, per the Urban Turf Rule."

Fertilizer Application Rates

1. ***FDEP-IFAS FYN Handbook 2009 Edition*** The Florida Yards & Neighborhoods Handbook

   2009 FYN Yard Certification Checklist: Items to Qualify for a Florida Friendly Yard include:

   "Minimal to no supplemental fertilization is used in the landscape"; and "If supplemental fertilization is used, **lawn and landscape beds are fertilized at the lowest of the fertilizer ranges recommended** by the UF Turfgrass and Landscape Science Programs."

2. **2008 FDEP *Florida Friendly Best Management Practices for Protection of Water Resources by the Green Industries* (GI BMP Manual)** http://fyn.ifas.ufl.edu/pdf/grn-ind-bmp-en-12-2008.pdf

   P 29 Table 5: Fertilization guidelines for established turfgrass lawns in three regions of Florida

   Nitrogen recommendations (lbs N / 1000 ft^2 / year)*

Species	North	Central	South
Bahia	2-3	2-4	2-4
Bermuda	3-5	4-6	5-7
Centipede	1-2	2-3	2-3

St. Augustine	2-4	**2**-5	4-6
Zoysia	3-5	**3**-6	4-6

* North Florida is north of Ocala. Central Florida is defined as south of Ocala to a line extending from Vero Beach to Tampa. South Florida includes the remaining southern portion of the state.