



**FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION**

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April 30, 2014

RECEIVED

MAY 5 2014

Ms. Kelli McGee, Director  
Growth and Resource Management  
Volusia County  
123 West Indiana Avenue, Room 200  
Deland, Florida 32720-4612

Dear Ms. McGee:

Thank you for your March 25<sup>th</sup> and April 14<sup>th</sup>, 2014 submissions of draft fertilizer ordinance provisions under consideration for addition to the state's model fertilizer ordinance and the reference information found on your website. The Department thanks Volusia County for its progressive understanding and actions in adopting the state model ordinance without delay while giving time for careful consideration of more stringent measures.

Florida Statute 403.9337 recognizes that in some areas of the state the best management practices provided in the Model Ordinance must be amended to account for unique, site specific conditions that make adjacent surface water resources more vulnerable to nutrient enrichment. The statute provides local governments the authority to amend the ordinance with more stringent requirements. This authority is granted contingent upon documentation of those site specific conditions associated with increased vulnerability and documentation that complementary measures to the ordinance (a comprehensive non-point source control program) have been implemented. The County must be able to provide such documentation upon request.

The Department has reviewed the proposed measures and notes that most of the provisions of the draft revisions do appear more stringent. We offer the following comments.

**Sec. 50.527. Fertilizer Content and Application Rates**

- (c) Fertilizers containing phosphorus shall not be applied to turf, sod, lawns or landscape plants in Volusia County. No fertilizer containing phosphorus shall be applied to turf, sod, lawns or landscape plants unless a soil or plant tissue deficiency is verified by a testing methodology approved by the University of Florida, Institute of Food and Agricultural Sciences. If a deficiency is verified, the application of fertilizer containing phosphorus shall adhere to the rates and directions for the Southern Region of Florida, as adopted by Florida Administrative Code Rule.

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The Florida Department of Agriculture and Consumer Services (FDACS) Rule 5E-1.003, Florida Administrative Code permits up to 0.25lb P<sub>2</sub>O<sub>5</sub>/1000 ft<sup>2</sup> per application up to 0.5lb P<sub>2</sub>O<sub>5</sub>/1000 ft<sup>2</sup> annually without testing. Therefore, this part of the draft ordinance is stricter than the model ordinance. In addition, the urban turf rule does not apply to landscape plantings.

While technically more stringent than the Model Ordinance, this provision is generally consistent with the recommendation contained in the 2010 printing of the *Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries* (GI-BMPs). On Page 31 it states "This BMP manual strongly recommends soil testing before any initial P<sub>2</sub>O<sub>5</sub> application and annually if applications are being made based on previous testing. ... For more information, see IFAS Publication SL-181, *Soil Testing and Interpretation for Florida Turfgrasses*, at <http://edis.ifas.ufl.edu/SS317>." Please take note that all commercial applicators are required to receive training in the GI-BMPs by state law. The model ordinance expands the requirement for this training to all institutional applicators.

Volusia County is split between the North and Central regions of Florida. Use of the Southern region rates and times would result in over-application and misapplication of nutrients, thereby increasing the nutrient leaching and runoff. This makes this part less stringent than the model ordinance.

#### **Sec. 50.527. Fertilizer Content and Application Rates**

- (d) Fertilizers containing nitrogen applied to turf and/or landscaping plants within Volusia County shall contain no less than 50 percent Slow Release Nitrogen per Guaranteed Analysis Label.

This position is also more stringent than the Model Ordinance.

The recommended application amount, one pound, of 50% slow-release fertilizer contains exactly the same amount of quick release nitrogen as the recommended application amount, ½ pound, of 100% quick release nitrogen. They present the same risk of immediate leaching and runoff when applied at the BMP recommended rates, except for the slow release material which will continue to release nitrogen for several weeks, which may or may not be a benefit. If applied in mid fall as a last fertilization, slow release products may release too late and promote additional leaching or runoff, or may be washed into storm drains by a heavy storm and release after transport to a water body. Earlier in the year they are generally beneficial as they can eliminate the labor and risk of additional quick-release only applications.

As in the case above, the general recommendation for the lay person is to use slow release. However, it is not always appropriate in the professional setting, and there are times when quick-release materials are preferred even from an environmental and water-quality standpoint.

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Please be aware that the FDACS Urban turf Rule 5E-1.003(2), affecting fertilizer labeling by manufacturers is currently being revised with significant changes. This will necessitate changing the rule references from 5E-1.003(2) to simply 5E-1.003, because the new format covers urban turf uses other than consumer residential, such as golf courses and other users of bulk fertilizer quantities, under their own (numeric) sections instead of the current (2)(a-f). Among the expected changes are the above-mentioned rates; a limitation on soluble fertilizers to grass that is actively growing; an increase in total nitrogen application from 1 to 2 lb. N provided the 7-day release rate does not exceed the soluble fertilizer application rate and limited to the spring to midsummer periods, when the turf can readily uptake the material without significant remaining slow-release N extending into turf dormancy periods; and structural changes to the Rule to conform to national standards.

#### **Sec. 50.524. Timing of Fertilizer Application**

- (c) Fertilizer containing nitrogen and / or phosphorus shall not be applied to turf and / or landscape plants June 1 through September 30 of each year.

This is more stringent than the model ordinance, and may be contraindicated by research in this climatic zone.

Please refer to the recent study done by the University of Florida over 8 years, and available at: [http://publicfiles.dep.state.fl.us/DEAR/nonpoint/Turf%20Leaching%20Study%20Final%20Report/WM869\\_Final\\_Report\\_12042012.pdf](http://publicfiles.dep.state.fl.us/DEAR/nonpoint/Turf%20Leaching%20Study%20Final%20Report/WM869_Final_Report_12042012.pdf).

As noted above, Volusia County is split between the North and Central climatic zones for plant fertilization. The latitude of the UF/IFAS Citra Research station, where the dormant turf leaching studies referenced above were carried out, is just south of the northernmost border of Volusia County.

This body of work indicates that the greatest potential for loss of nitrogen to the shallow ground water is in the early spring, when root structure is most reduced, and fall, when a shorter length of daylight, lower sun angle, and cooling soil temperatures sharply reduce nitrogen uptake by the plant. This effect must be weighed against any increase in direct runoff due to summer rains on Florida's generally sandy soils.

Given that most businesses that apply agrichemicals in a residential setting operate on about a 2 month cycle, applying the moderate to high end annual fertilization rates while adhering to BMPs and rates under 5E-1.003 F.A.C. effectively forces application to begin when risk of leaching is at the highest point. A homeowner, of course, may apply fertilizer more frequently and apply those rates with 2 or even 3 applications of slow-release products in April and May.

**Sec. 50.525. Fertilizer Free Zones**

- (a) Fertilizer shall not be applied within fifteen (15) feet of any pond, stream, watercourse, lake, canal, or wetland as defined by the Florida Department of Environmental Protection Rule 62-340, Florida Administrative Code, or from the top of a seawall.

Newly planted turf and / or landscape plants may be fertilized in this zone only for a sixty (60) day period beginning thirty (30) days after planting if needed to allow the plants to become well established. Caution shall be used to prevent direct deposition of nutrients into the water.

This provision is more stringent than the model ordinance. Erosion of bank areas may be a concern, and maintenance of effective erosion control practices is very important. This section of the model ordinance was designed only to address accidental deposition of fertilizer into the water during application, not as a filter strip for stormwater treatment.

**General Comments**

In reviewing material on the website provided, it was noted that some of the results were attributed to the use of more stringent ordinances in a specific area. It was not clear whether the referenced studies on the website took into account how much the statewide effort contributed to the reductions. The Green Industries Best Management Practices (BMP) program and the first FDEP model ordinance date to 2002 and 2003, respectively. In 2007, the Urban Turf Rule, (5E-1.003(2) Florida Administrative Code) was passed, limiting turf fertilizer formulation and labeling. In 2009, the legislature adopted a new DEP Model Fertilizer Ordinance into law, and required training and in some cases licensing of almost anyone applying fertilizer as part of their job by 2014.

Reduction in average nonfarm nitrogen sales from 2004-2008 to 2009-2012, 46%  
Reduction in average nonfarm phosphate sales from 2004-2008 to 2009-2012, 54%

Reduction in annual turfgrass fertilizer nitrogen sales from 2009-2012, 35%  
Reduction in annual turfgrass fertilizer phosphate sales from 2009-2012, 29%

The above information is derived from fertilizer sales records maintained by the Florida Department of Agriculture and Consumer Services.  
(<http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Environmental-Services/Agriculture-Industry/Fertilizer-Manufacturers/Fertilizer-Consumption-Tonnage-Data>).

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While at least some of the reductions between 2007 and 2009 may have been due to economic difficulty during the recession, there is little doubt that Florida's efforts through the growing Florida-Friendly Landscaping™ programs, including the model ordinances, have been effective in reducing the overuse of nutrient applications. It is not known whether any studies have looked at the difference between the statewide reductions over the last decade, and those where more stringent local ordinance provisions have been in place.

Lastly, the Department also encourages Volusia County to adopt provisions of the Department's irrigation model ordinance in addition to the statutorily mandated fertilizer model ordinance. Over-irrigation not only wastes our fresh water supply but is a major driving force behind the excess leaching and runoff of nutrients and other pollutants.

The actions of Volusia County to prevent nutrient loadings into adjacent surface waters are recognized and appreciated. Adoption of a local ordinance for urban fertilizer use will enhance the county's stormwater control program. I hope you find the comments offered above to be of assistance in demonstrating consistency with the expectations established in section 403.9337, F.S.

If you have any questions, please feel free to contact Mike Thomas, Professional Engineer III, with the Department's Division of Environmental Assessment & Restoration, at (850) 245-7513.

Sincerely,



Kate Brackett  
Administrator  
Nonpoint Source Management Section

KB/mt/hp

cc: Mike Thomas, Professional Engineer III, DEP