



FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
COMMISSIONER ADAM H. PUTNAM

March 5, 2014

Kelli McGee, Director
Growth and Resource Management
Volusia County

Ms. McGee:

We were informed that on March 6, 2014 the Volusia County Commission will be considering more stringent standards for its proposed fertilizer ordinance. As outlined in Ch. 403.9337 2 (b) F.S., local governments who wish to enact standards more stringent than the Florida Department of Environmental Protection's Model Ordinance for Florida Friendly Fertilizer Use on Urban Landscapes (model ordinance), must document additional standards are part of a comprehensive plan and has considered the input from the University of Florida Institute of Food and Agricultural Sciences, Florida Department of Environmental Protection, and the Department of Agriculture and Consumer Services (department). We have no record of a request from Volusia County for the department's input, therefore we ask that our comments provided below be included in the record and considered by the Commission in its fertilizer ordinance discussions.

First I would like to emphasize that water quality issues are a priority with the department and we share in the concerns regarding the recent decline in the health of the fragile Indian River Lagoon Estuary.

Upon review of the options under consideration, neither the restriction on summertime turf fertilizer applications, nor a mandated application of either 100% or 50% controlled release nitrogen products have been scientifically validated as effective methods of limiting nutrient migration. Recently completed turf research has demonstrated that restricted application periods, if employed, should be established when turf is in a state of dormancy – not during the actively growing season. Research has also shown that some controlled release products can leach more nitrogen than soluble products. The Department promotes a science based approach to limit nutrient loading and neither of these proposed standards meet this criteria.

Below are our comments on proposed standards more stringent than model ordinance.

1. TIMING OF FERTILIZER APPLICATION

The prohibited fertilizer application period continues to be the most controversial standard proposed in local ordinances. The recently completed Florida Department of Environmental Protection funded turf research¹ examined annual fertilizer applications and the studies revealed the following:

- The majority of the mass flux of $\text{NO}_3\text{-N}$ (leaching) occurs in the late fall through early spring.
- In the summer months actively growing turf has the capacity of absorbing applied nutrients well above current labeled application rates.
- If a restricted application period is adopted, it should be in the late fall, winter and early spring months.

A summertime restricted application period has been promoted as a strategy to minimize nutrient migration to ground and surface waters, but to date, there have been no studies produced to substantiate the environmental benefits from a ban on summertime fertilization.

The summer months are when turf can best utilize applied nutrients to ensure its health and the health of our best nutrient filtration system. By banning the practice of summertime fertilizer applications, you are indirectly promoting post restricted period applications. Applications when turf is beginning to enter dormancy, consequently increasing the potential of late season nutrient applications being lost to the environment.

2. FERTILIZER CONTENT AND APPLICATION RATES

- a. Ban or limit on phosphorus application to turf or landscape plants

Banning or limiting available phosphate applications is more restrictive than the model ordinance. Rule 5E-1.003(2) allows up to 0.25 lbs. $\text{P}_2\text{O}_5/1000$ sq. ft. per application up to 0.5 lbs. $\text{P}_2\text{O}_5/1000$ sq. ft. annually without testing.

The 0.25 lbs. $\text{P}_2\text{O}_5/1000$ sq. ft. of available phosphate has been determined to be the maintenance level of phosphate required by turf to sustain turf health. Most Florida soils have abundant forms of phosphate, but very little of the phosphate is in a plant available form. Available phosphate is an essential nutrient to ensure turf health and without this essential nutrient, over time the end result will be a decline in root structure and the overall reduction in turf's filtration capacity.

b. Nitrogen content shall contain 100% or at least 50% slow release nitrogen

The recently completed IFAS turf research¹ evaluated the many forms of nitrogen that are applied to turf and the conclusions were:

- When applied at 1 pound every 60 days to St. Augustine grass there was no difference in the total annual amount of NO₃-N that leached when comparing soluble urea and a 50% controlled release blended fertilizer.
- The release mechanisms for controlled release products are varied with some forms actually leaching more NO₃-N than soluble urea.

Presently there has been no documented research substantiating an environmental advantage to prescribing the application of a 100% or 50% controlled release turf product. Therefore the Department endorses the guidance prescribed in Rule 5E-1.003 F.A.C.

Based on the St. Johns River Water Management District's water quality data² for 2011 and 2012, the total nitrogen levels in the Indian River Lagoon have been declining without the more stringent ordinance standards many local governments around the lagoon have recently adopted. Logically, the concept everyone seems to have embraced to prevent nutrient migration is to prohibit fertilization during the summer months, but the science speaks contrary to this premise. To sustain healthy turf you need to feed it according to labeled use directions when it is actively growing – in the summer months, and discontinue feeding when it isn't.

In the absence of scientific evidence supporting the effectiveness of the proposed more stringent standards, the Department recommends restricted application periods correspond to the timeframes in which turf is not actively growing, and ordinances adhere to the application guidelines currently prescribed in Rule 5E-1.003 F.A.C.

Sincerely,



Weldon Collier, Program Planning Coordinator
Division of Agricultural Environmental Services

cc: Anderson H. Rackley, Director
Steven Dwinell, Assistant Director

¹ *Warm-Season Turfgrass N Rates & Irrigation BMP Verification* (IFAS Research Report to the Florida Department of Environmental Protection; associated peer reviewed articles and a statistical evaluation of the data. These documents are accessible online at <http://publicfiles.dep.state.fl.us/DEAR/nonpoint/>

² St. Johns River Water Management District Website - Surface Water Quality
<http://www.sjrwmd.com/hydrologicdata/waterquality/>