TO: Jeffrey Klatzow, County Attorney, Collier County Florida

FROM: Judith Hushon, Ph.D. Chair, Collier County Environmental Advisory Council

SUBJECT: Scientific Backup for Fertilizer Ordinance that is More Strict than the State Standard

DATE: June 21, 2011

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At the meeting of the Board of County Commissioners on June 14, 2011, Commissioner Donna Fiala moved to direct the preparation of a Fertilizer Ordinance for Collier County that was stricter than the State Standard Fertilizer Ordinance in four areas. Commissioner Georgia Hiller requested the scientific backup for these four stricter provisions and this memo constitutes that backup.

These responses are specifically aimed at meeting the needs of Collier County. Because the state is large and encompasses a variety of soil types, the standard ordinance had to be less restrictive than that which is needed in a southwest Florida coastal county where nutrient runoff quickly affects the Gulf of Mexico.

Accompanying this memo is a file with citations and pages that are highlighted showing the points being emphasized. It should be noted that many of these documents are the same ones mentioned by Dr. Tirell Nell during his presentation on June 14. Also provided are the full texts for each referenced document should you wish to refer to them.

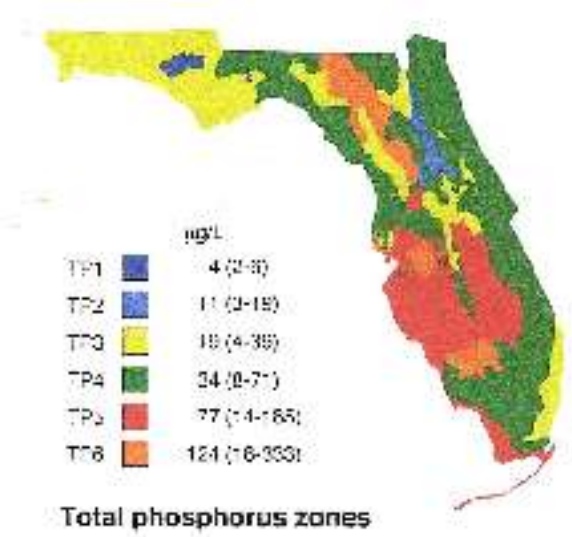
**Provision 1: Requirement for at least 50% slow release nitrogen fertilizer and an annual limit of 4 lbs N/1000 sf.**

Both IFAS and FDEP in their BMPs and Handbooks recommend not applying "fertilizer at greater than the recommended rate of 0.5 lbs of soluble N per 1000 sf per application" and approximately four applications per year (depends slightly on type of grass). This same BMP applies to both yards and golf courses. During testimony, Dr. Tirrell Nell stated that this is the application rate recommended by IFAS.

**Provision 2: No application of Phosphate unless indicated by an appropriate soil test.**

During the presentation by Dr. Tirell Nell of IFAS at the June 14 hearing, he stated that he was missing a slide showing that the concentration of phosphate in Florida is generally sufficient that no additional phosphate needs to be added. The insert is the map he intended to show and comes from the University of Florida. As you can see, Southwest Florida has high natural phosphate concentrations.

The "Best management Practices for the Enhancement of environmental Quality on Florida Golf Courses" similarly states on page 44 "...many areas of the state are very sensitive to excess P. Phosphorous is abundant in some soils and should never be added to turf without a specific reason. Soil …should almost always be tested before fertilizing with P." On page 38, this same document states "Many Florida soils have adequate, or even excessive, amounts of P."




Dr. Nell stated that only permitting use of phosphate in fertilizing operations if a soil test indicated low levels was what IFAS recommends.

**Provision 3: Use of a 10 ft buffer from lakes, streams, drainage ditches or other water bodies.**

The "Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses" recommend the use of 25' non-irrigated buffers, mowed to a depth of 3-4" along water bodies. These buffers are designed to "reduce nutrient inputs before they reach open water." The recommended slope for the sides of stormwater retention lakes is 1ft in height for each 10 ft horizontal. This means that the non-fertilized area is meant to be 2 1/2 feet above the maximum lake depth.

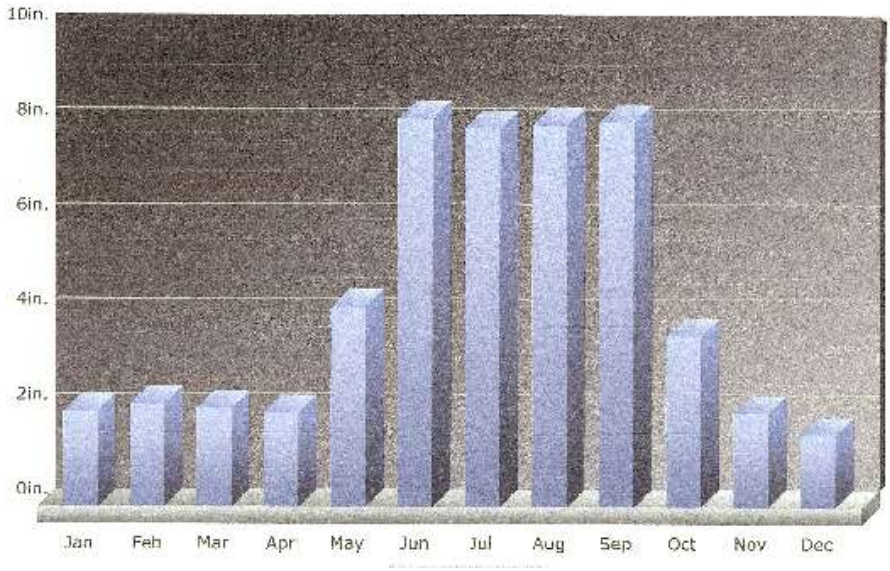
These Best Management Practices (BMPs) were developed together with IFAS and Florida DEP and so conform to both agency's recommendations.

The 10 ft buffer being considered by Collier County is less than that recommended for golf courses and less than that recommended by some other jurisdictions (Sanibel recommends 25 ft ) but the City of Naples, Marco Island, Lee County and Sarasota County all recommend 10 ft.

This can be justified by the fact that homeowners have less land to deal with and often live closer to a stormwater retention pond than the golf course fairways. Therefore, a smaller number may be more appropriate for them.

**Provision 4: No application of fertilizer during the months of August and September**.

The following graph shows the typical rainfall in Collier County by month. In general, sufficient rain is received during June and July to saturate the soil. Rain in August and September, therefore, tends to run off to stormwater overflows; this rain carries recently applied fertilizer with it. Most of the




coastal jurisdictions in Florida that have enacted fertilizer ordinances have limited fertilizer application during the period June 1 – September 30. Collier County's proposed ordinance would be less strict than those of the City of Naples, Lee County, the City of Marco Island, Sanibel Island, etc. but it would still accomplish the intended purpose of reducing fertilizer runoff.

Most granular fertilizers recommend application 3-4 times per year. The use of slow-release, granular fertilizer will ensure that turf fertilization is achieved during this two month hiatus from application. One of the points raised during testimony is that turf grass grows most during the summer months. This is less true in south Florida than in more northern parts of the state because our weather is warmer year round and we do not experience frosts.

It is universally recommended that fertilizers not be applied when rain is expected within 24 hours. This is tricky in southwest Florida from June to the end of September when rain occurs on average every 1 ½ days. Therefore, the concept of a moratorium during at least part of this period makes sense because fewer errors in judgment concerning when to apply the fertilizer will be made. It is also true that landscape services have certain days of service for each customer and if rain is expected on that day, they may apply the fertilizer anyway just to say they did it.