Fertilizer Ordinances: Reasons and Purposes

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http://turf.ufl.edu
<table>
<thead>
<tr>
<th>Year</th>
<th>Collier</th>
<th>Lee</th>
<th>Charlotte</th>
<th>Sarasota</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>6,488</td>
<td>23,404</td>
<td>4,286</td>
<td>28,827</td>
</tr>
<tr>
<td>1960</td>
<td>15,753</td>
<td>54,539</td>
<td>12,594</td>
<td>76,895</td>
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<tr>
<td>1970</td>
<td>38,040</td>
<td>105,216</td>
<td>27,559</td>
<td>120,413</td>
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<tr>
<td>1980</td>
<td>85,971</td>
<td>205,266</td>
<td>58,460</td>
<td>202,251</td>
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<tr>
<td>1990</td>
<td>152,100</td>
<td>335,100</td>
<td>111,000</td>
<td>277,800</td>
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<tr>
<td>2000</td>
<td>251,000</td>
<td>441,000</td>
<td>142,000</td>
<td>326,000</td>
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</table>
From 2003 to 2004, Florida’s population grew by 4.7% while the U.S. population grew by 3.8% during the same period.
Nutrient Sources

- Upwelling
- Nitrogen fixation
- Sewage
- Animal wastes
- Residential fertilizer
- Agricultural fertilizer
- Soil erosion
- Peat degradation
- Phosphate mining

- Rivers
- Nonpoint source runoff
- Groundwater
Reduced nutrient assimilation capacity

- Disturbed terrestrial ecosystems
- Increased impervious surfaces (increased runoff)
- Loss of wetlands
- Loss of seagrass
Two Ways That Fertilizers Can Pollute

1. Leaching through soil profile to groundwater – this is what nitrogen will do in sandy soils
Two Ways That Fertilizers Can Pollute

2. Surface water run-off to surface water bodies
Urea
(a nutrient of increasing significance globally)

Change in world consumption of total synthetic N fertilizers


Data based on projections of annual increase of 3% in total consumption and 5% increase in fraction that is urea
<table>
<thead>
<tr>
<th>County</th>
<th>2003</th>
<th>2006</th>
<th>Increase</th>
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</thead>
<tbody>
<tr>
<td>Hillsborough</td>
<td>15,093</td>
<td>24,778</td>
<td>63%</td>
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<tr>
<td>Polk</td>
<td>11,458</td>
<td>22,488</td>
<td>96</td>
</tr>
<tr>
<td>Hernando</td>
<td>9,203</td>
<td>15,691</td>
<td>70</td>
</tr>
<tr>
<td>Pinellas</td>
<td>9,888</td>
<td>14,697</td>
<td>47</td>
</tr>
<tr>
<td>Sarasota</td>
<td>8,336</td>
<td>12,160</td>
<td>46</td>
</tr>
<tr>
<td>Manatee</td>
<td>7,240</td>
<td>8,655</td>
<td>20</td>
</tr>
<tr>
<td>Pasco</td>
<td>4,928</td>
<td>7,583</td>
<td>54</td>
</tr>
<tr>
<td>Citrus</td>
<td>2,657</td>
<td>3,526</td>
<td>33</td>
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</tbody>
</table>

Source: FL Dept. of Ag. And Consumer Services, Bureau of Compliance Monitoring
Types of Lawns

In Rank Order

- St. Augustinegrass including Floratam (53%)
- A mixture of weeds and St. Augustinegrass (23%)
- A mixture of weeds and Bahiagrass (9%)
- Bahiagrass (6%)
- Mostly weeds (5%)
- Other (2%)
- Zoysiagrass (1%)
- Mostly weeds (6%)

Based on 222 responses of people with lawns. 10 respondents have no lawns and 3/5 of the “Other” have a mix of lawn and native groundcover.
Lee County Fertilizer Survey

Who Applies Fertilizer

- Owner: 44%
- Landscape Company: 34%
- No Fertilizer Applied: 22%

Size of Fertilized Area in Square Feet

- Less than 2000: 10%
- 2000-4000: 20%
- 4000-6000: 30%
- 6000-8000: 20%
- 8000-10000: 10%
- >10,000: 5%

221 responses 172 responses
Lee County Fertilizer Survey

Amount of Fertilizer per 1,000 Square Feet

- <3 lbs.: 118 responses
- 4-6 lbs.: 165 responses
- 7-9 lbs.
- 10-12 lbs.
- 13-15 lbs.
- >15 lbs.

Frequency of Soil Analysis

- > yearly: 165 responses
- Yearly: 118 responses
- Sometimes: 165 responses
- Never: 118 responses
Frequency of Fertilizer Application

Average Number of Applications - 2.7 / year.
Max allowed - 6 (SWFRPC)

148 responses
Residential Lawn Problems

Rank Order of Lawn Problems
1 most severe, 7 least

- Under irrigation/Drought
- Weeds
- Insects
- Diseases
- Fertilization
- Mowing
- Over irrigation

215 responses
Commercial Lawn Problems

Customer lawn/turf problems
1 being the worst, 7 being the least problem.

Ordered worst to least

34 responses

- Establishes pollutant levels for impaired waters that do not meet water quality standards
- Directs DEP to develop voluntary BMPs for non-agricultural industries
- Directs DACS to develop voluntary BMPs for ag industries
- BMPs have become a way of doing business for many ag and some non-ag industries in the last few years
Concern at the National Level

• Lawns and the Environment Summit
• RISE Fertilizer Conference, Oct 2005
• CAST Water Conference, Jan 2006
• Wisconsin, Minnesota P legislation
• “Cash for Grass” in Southwest
Concern at the Local Level: The First Ordinance

St. John’s County

- January 2000 ordinance required restrictions on fertilizer use in the River Marsh Basin
- No Nitrogen fertilizer between April – October
- Low Phosphorus fertilizer
- Challenged in the courts
A Local Ordinance Could:

• Apply to both professional landscapers and homeowners

• Bans soluble fertilizers

• Limits fertilizer amounts
A Local Ordinance Could:

- Regulate timing of applications
- Results in additional licensing and record keeping for landscapers
- Results in fines
Research Needed to Verify Fertilization BMPs

- Lawn fertilization recommendations in the past were based on anecdotal observations.
- Not previously concerned with environmental aspects of fertilization.
Research Needed to Verify Fertilization BMPs

• How much nitrate and phosphate leaching/runoff actually occurs from lawn fertilization under a wide range of conditions statewide?

• These data needed prior to any potential rule adoption
What Would Be Effects of Turf or Fertilizer Ban?

- Increased Runoff
- Increased Leaching of Stormwater Runoff
- Increased Heat Buildup
Lawn Maintenance BMP Committee Forms

• July 6, 2000 - IFAS, DACS, DEP, meet with FTGA, CPCO, FPMA, PLCAA, et al. Green Industry group agrees to develop BMPs for lawn maintenance.
Objectives for the Green Industries BMPs:

• Reduce non-point source pollution from lawn fertilization
• Limit ordinances that had begun to pop up state-wide
• Result in future rule-making(?)
• Increase public awareness!!!
• June 2002, FL Green Industry BMP manual published

• In 2002, a series of “Train the Trainer” workshops statewide on a FDEP grant with a 2-year timeline
• In 2003, FDEP provided additional money to translate the manual into Spanish
• In 2004, an on-line training program was developed but discontinued.
• 2009, new on-line training program expected
Fertilizer Ordinance Dates

- January 2000  St. Johns County
- August 27, 2007  Sarasota County
- September 18, 2007  City of Sanibel
- February 20, 2008  City of Naples
- March 18, 2008  Charlotte County
- May 13, 2008  Lee County
- July 23, 2008  Duval County
- 2009??  FL State statutes
Timeline Overview

- 1999 – FS 403.067 Watershed Restoration Act: Directs DEP to develop voluntary BMPs for non-agricultural industries
- January - 2002 St. Johns County Ordinance
- June 2002 - FL Green Industry BMP manual published
- August 2007 - Sarasota County Ordinance
Timeline Overview

December 31, 2007 – Florida Turf Fertilizer Rule (FTFR)

- Limits application to 0.25 lbs. / 1000 sq. ft/application
- Limits P to \( \frac{1}{2} \) lbs. / 1000 sq. ft / year
- Limits N:P to 4:1 or greater for N. Thus, 16-4-8 acceptable
- July 1, 2009 – Manufactures required to change labels and formulations to meet FTFR
Residential Fertilizer Compliance

- Of 175 responses, 55 (30%) were able to report the fertilizer formulation.
- Nitrogen (N) ranged from 6 to 30% and Phosphorus (P) from 0 to 10%.
- The average fertilizer had 19% N and 3% P.
- The Southwest Florida Regional Planning Council (SWFRPC) limits nitrogen to 20% and phosphorus to 2%. 

![Graph showing % of Fertilizers in Compliance]
Commercial Fertilizer Compliance

- Of 39 responses, 37 reported the fertilizer formulation.
- Nitrogen (N) ranged from 0 to 28%.
- Phosphorus (P) ranged from 0 to 12%.
- The estimated average fertilizer had 15% N with an average of 46% being slow released N, and 2.4% P.
- The Southwest Florida Regional Planning Council (SWFRRPC) limits nitrogen to 20% and phosphorus to 2%.

% of Fertilizers in Compliance

- 85 responses at N ≤ 20%
- 69 responses at P ≤ 2%
- 61 responses N & P okay

54 responses – 2 responses allowed per survey
• January 2000 ordinance required restrictions on fertilizer use in the River Marsh Basin
• No Nitrogen fertilizer between April – October
• Low Phosphorus fertilizer
• Challenged in the courts
• Compromised reached in 2003
• In the Guana River Marsh Basin, sticker of BMP certification required
• No enforcement
Decal for Trucks for Professional landscapers

Green Industries
Best Management Practices

Certified Partner

Keeping your landscape green
and Florida’s water clean