

# **Fertilizer Ordinances: Reasons and Purposes**

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<http://turf.ufl.edu>



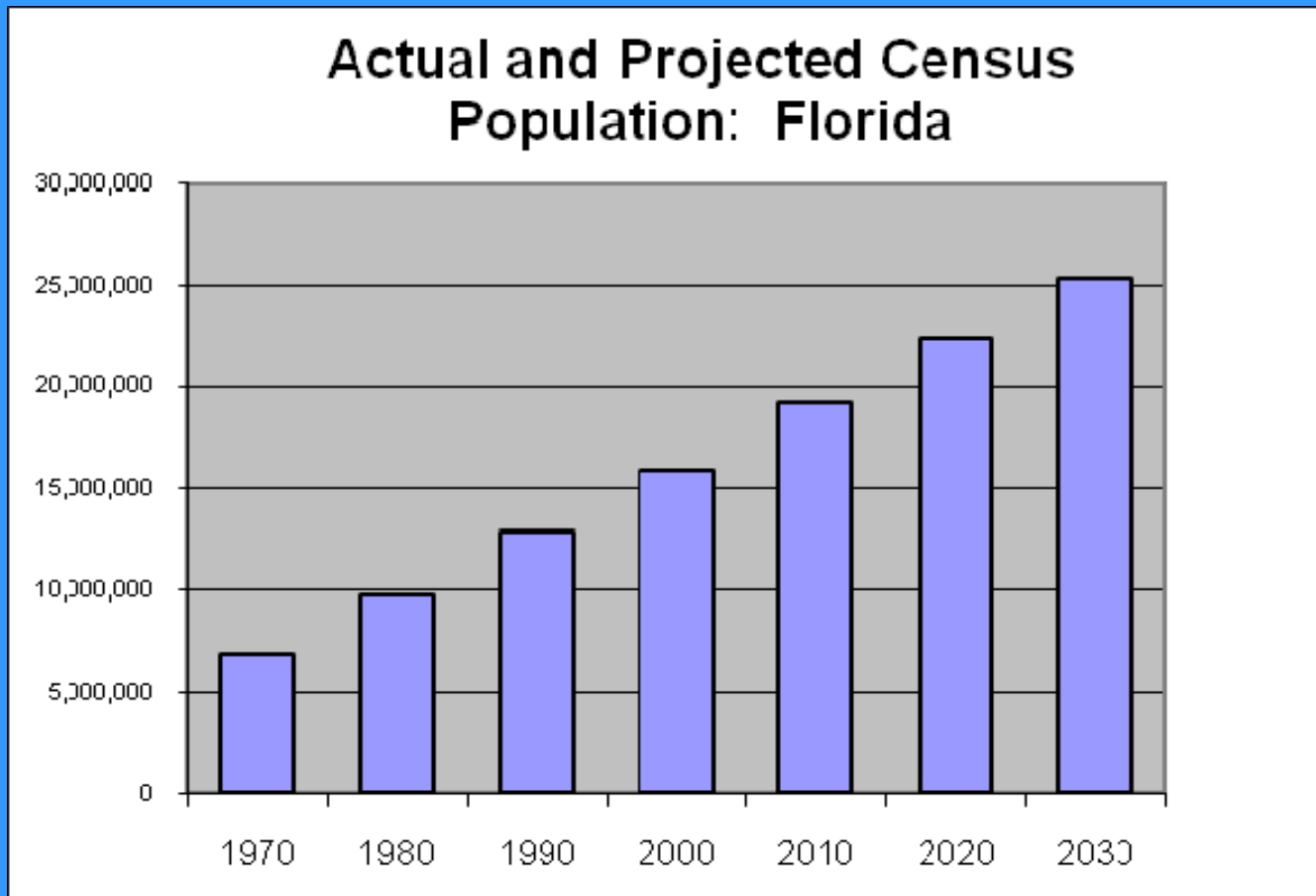




**Human population in Southwest Florida over time by county  
(from Florida Statistical Abstracts)**

| Year | Collier | Lee     | Charlotte | Sarasota |
|------|---------|---------|-----------|----------|
| 1950 | 6,488   | 23,404  | 4,286     | 28,827   |
| 1960 | 15,753  | 54,539  | 12,594    | 76,895   |
| 1970 | 38,040  | 105,216 | 27,559    | 120,413  |
| 1980 | 85,971  | 205,266 | 58,460    | 202,251  |
| 1990 | 152,100 | 335,100 | 111,000   | 277,800  |
| 2000 | 251,000 | 441,000 | 142,000   | 326,000  |

# Florida's Population Growth



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

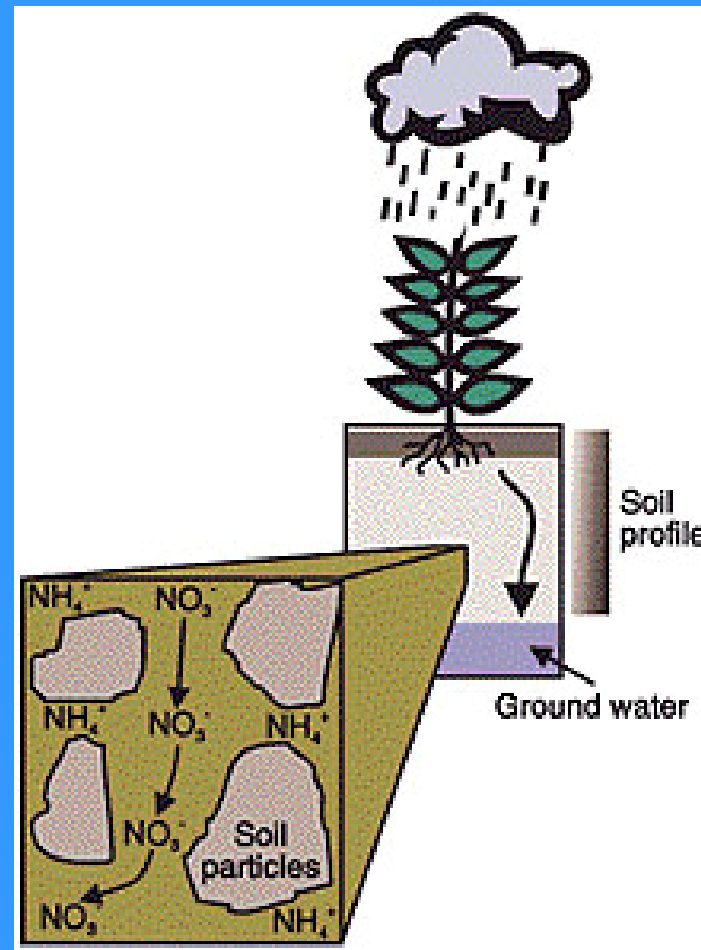
- Upwelling
  - Nitrogen fixation
  - Sewage
  - Animal wastes
  - Residential fertilizer
  - Agricultural fertilizer
  - Soil erosion
  - Peat degradation
  - Phosphate mining
- 
- Rivers
  - Nonpoint source runoff
  - Groundwater

# Reduced nutrient assimilation capacity

- Disturbed terrestrial ecosystems
- Increased impervious surfaces  
(increased runoff)
- Loss of wetlands
- Loss of seagrass

# Two Ways That Fertilizers Can Pollute

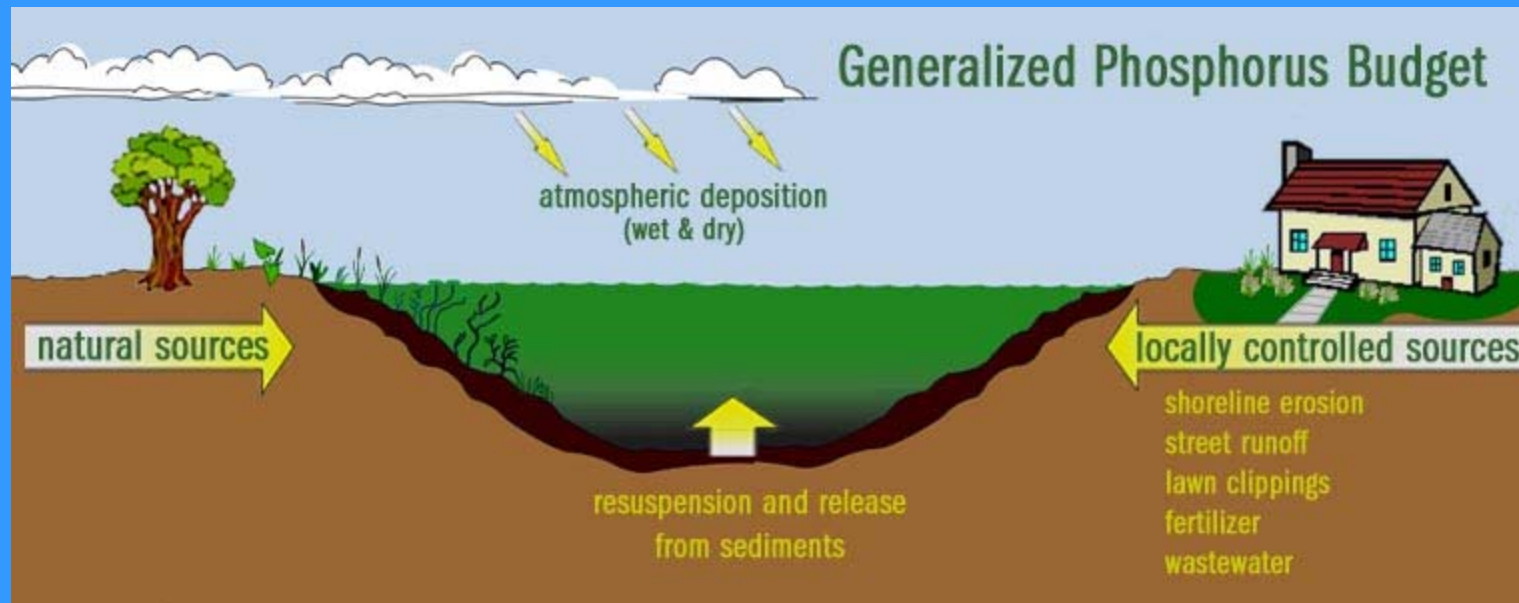
1. Leaching through soil profile to groundwater – this is what nitrogen will do in sandy soils





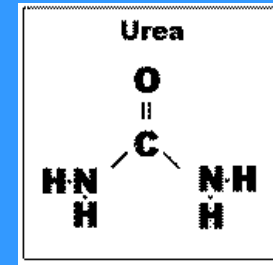
# Two Ways That Fertilizers Can Pollute

## 2. Surface water run-off to surface water bodies

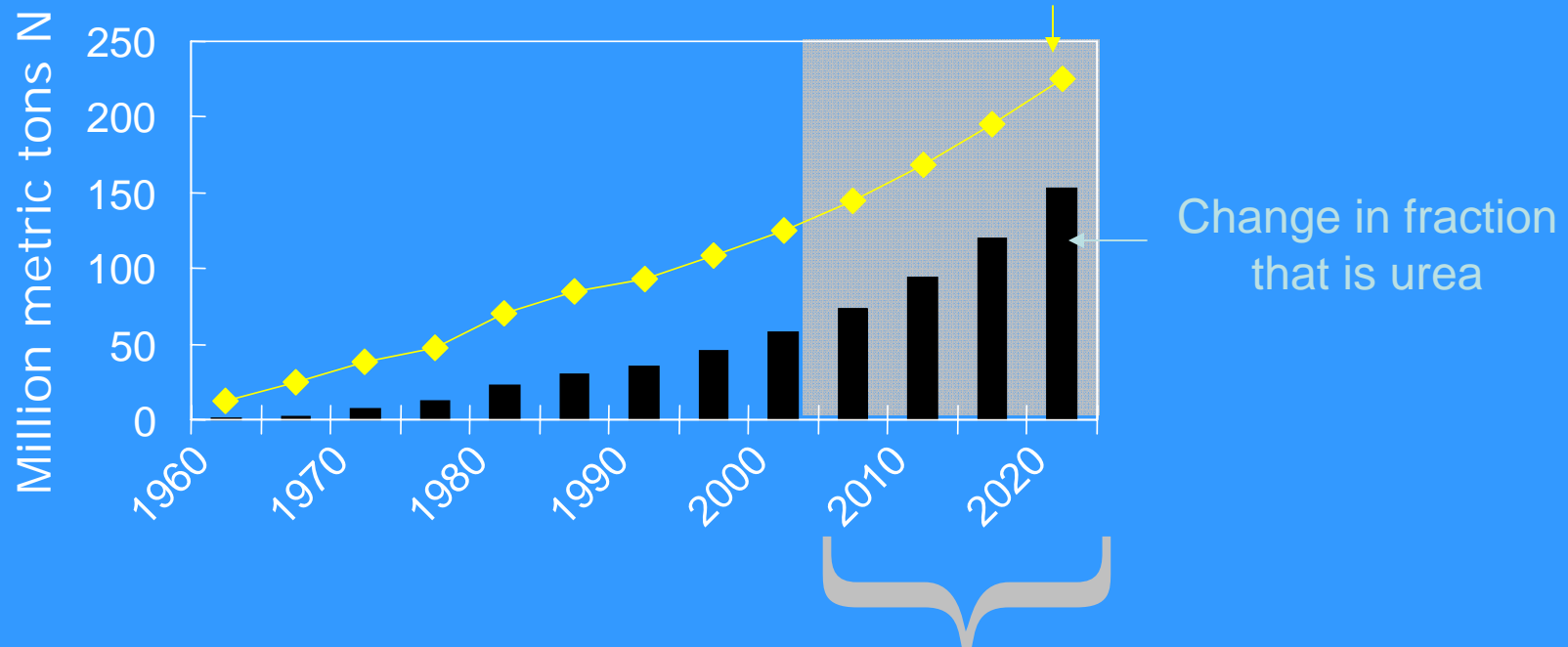


# Urea

(a nutrient of increasing significance globally)



Change in world consumption of total synthetic N fertilizers



Redrawn from Glibert et al (2006)

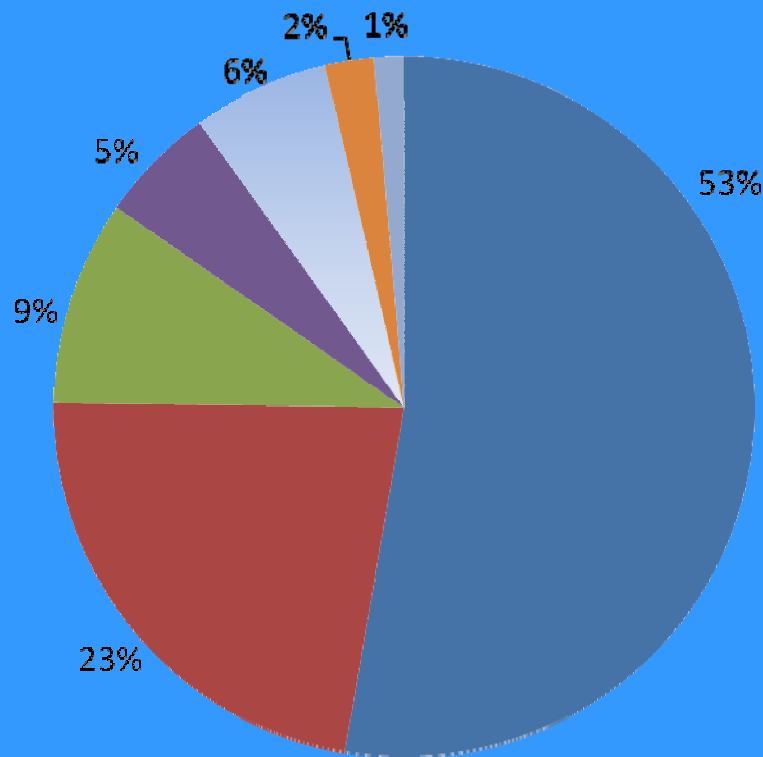
Data based on projections of annual increase of 3% in total consumption and 5% increase in fraction that is urea

## Residential Fertilizer Sales in Southwest Florida (In Tons)

| County       | 2003   | 2006   | Increase |
|--------------|--------|--------|----------|
| Hillsborough | 15,093 | 24,778 | 63%      |
| Polk         | 11,458 | 22,488 | 96       |
| Hernando     | 9,203  | 15,691 | 70       |
| Pinellas     | 9,888  | 14,697 | 47       |
| Sarasota     | 8,336  | 12,160 | 46       |
| Manatee      | 7,240  | 8,655  | 20       |
| Pasco        | 4,928  | 7,583  | 54       |
| Citrus       | 2,657  | 3,526  | 33       |

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

# Types of Lawns



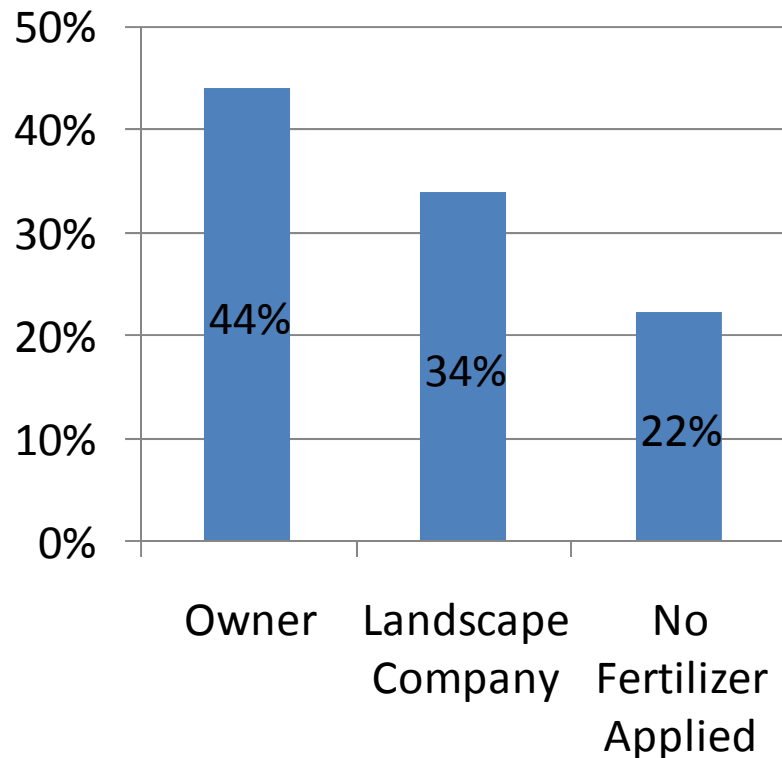
## In Rank Order

- St. Augustinegrass including Floratam
- A mixture of weeds and St. Augustinegrass
- A mixture of weeds and Bahiagrass
- Bahiagrass
- Mostly weeds
- Other
- Zoysiagrass

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.

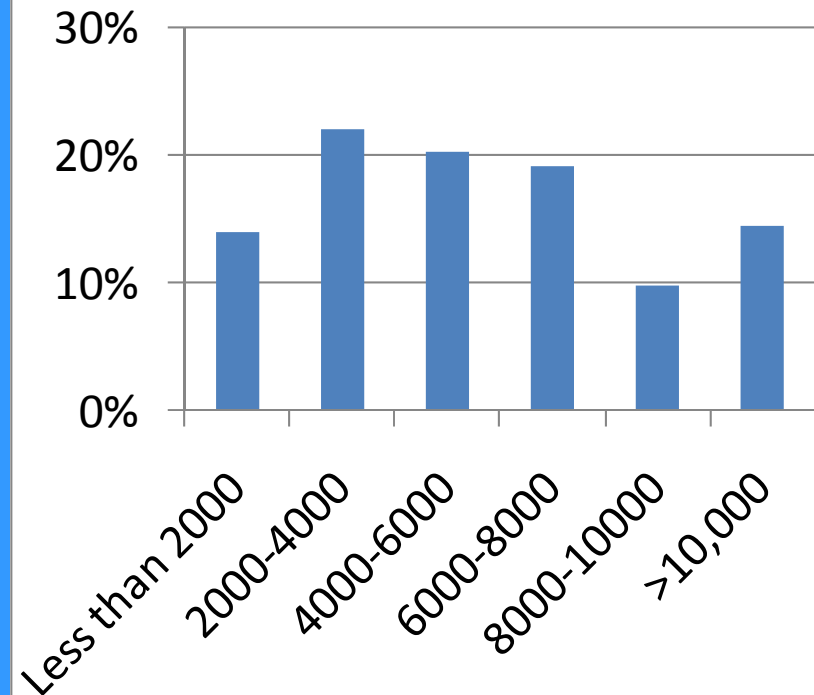
# Lee County Fertilizer Survey

## Who Applies Fertilizer



221 responses

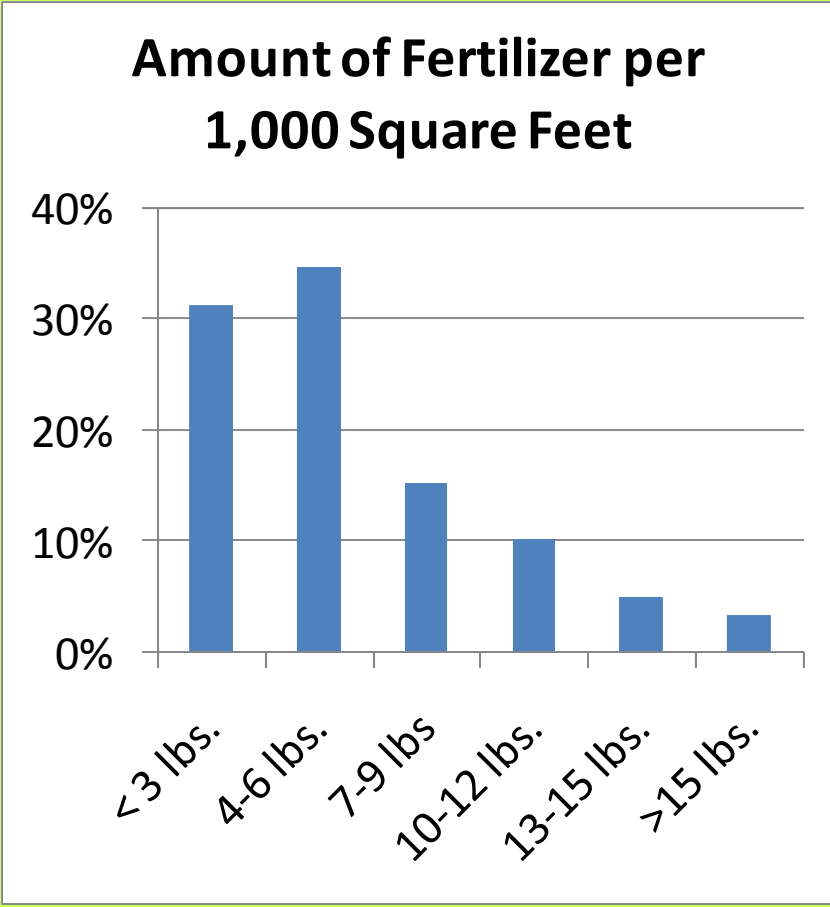
## Size of Fertilized Area in Square Feet



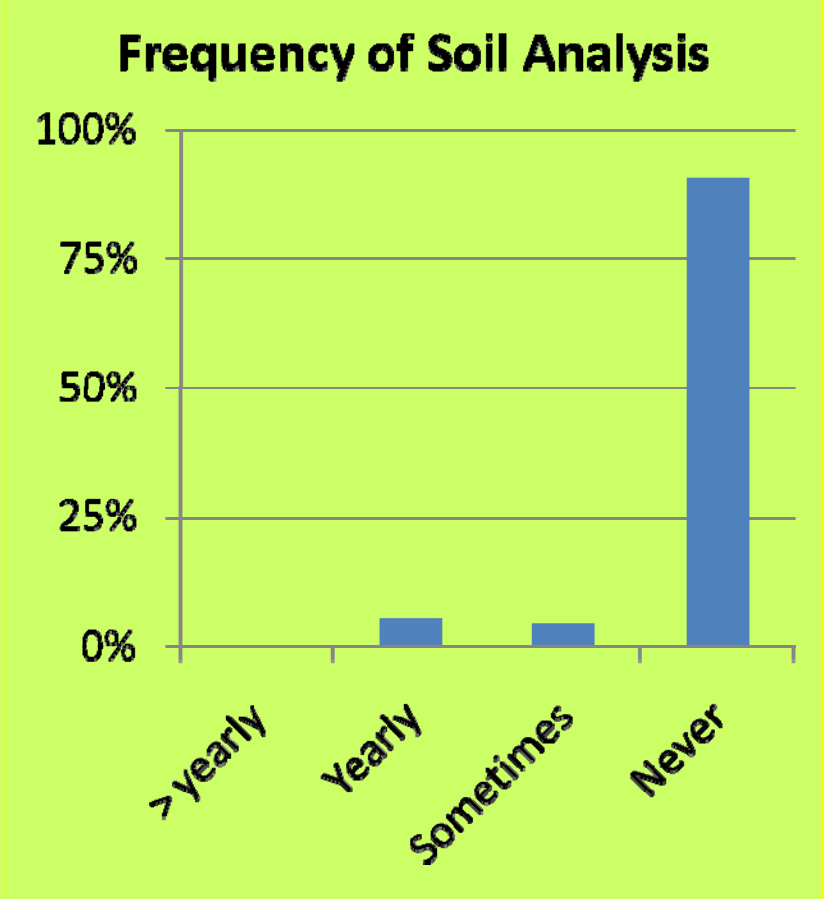
172 responses



# Lee County Fertilizer Survey



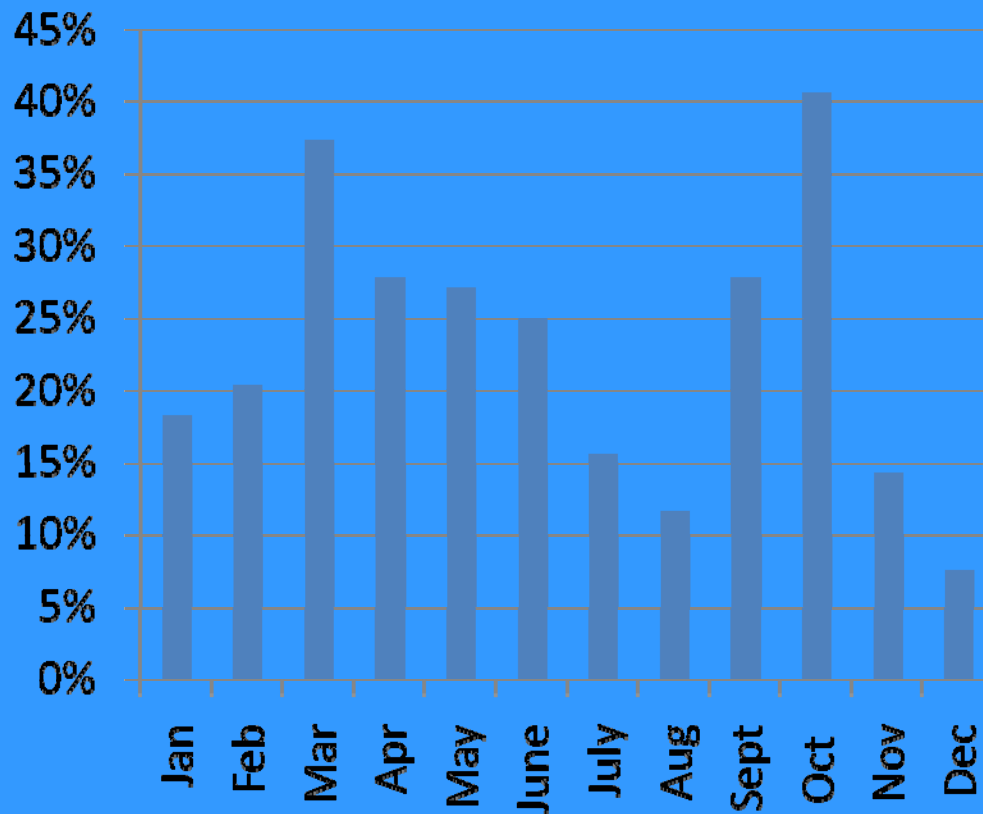
118 responses



165 responses

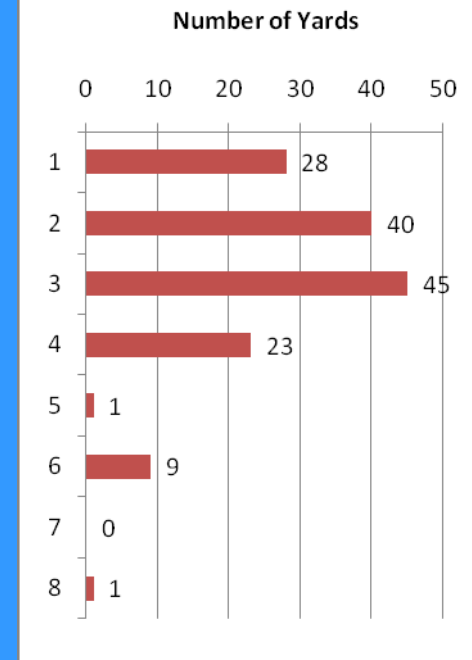
# Frequency of Fertilizer Application

## Months of Application



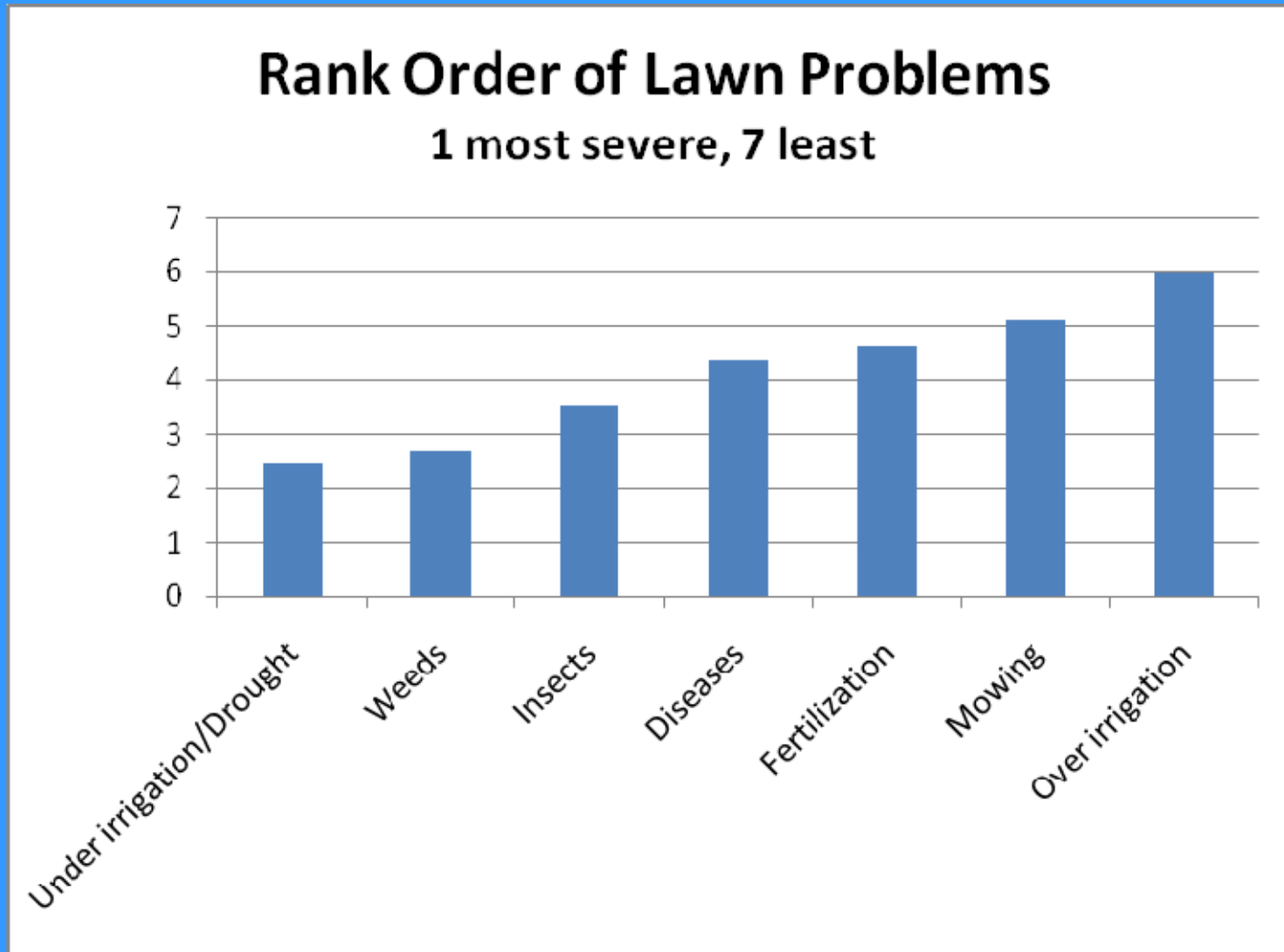
148 responses

## Number of Applications per Year



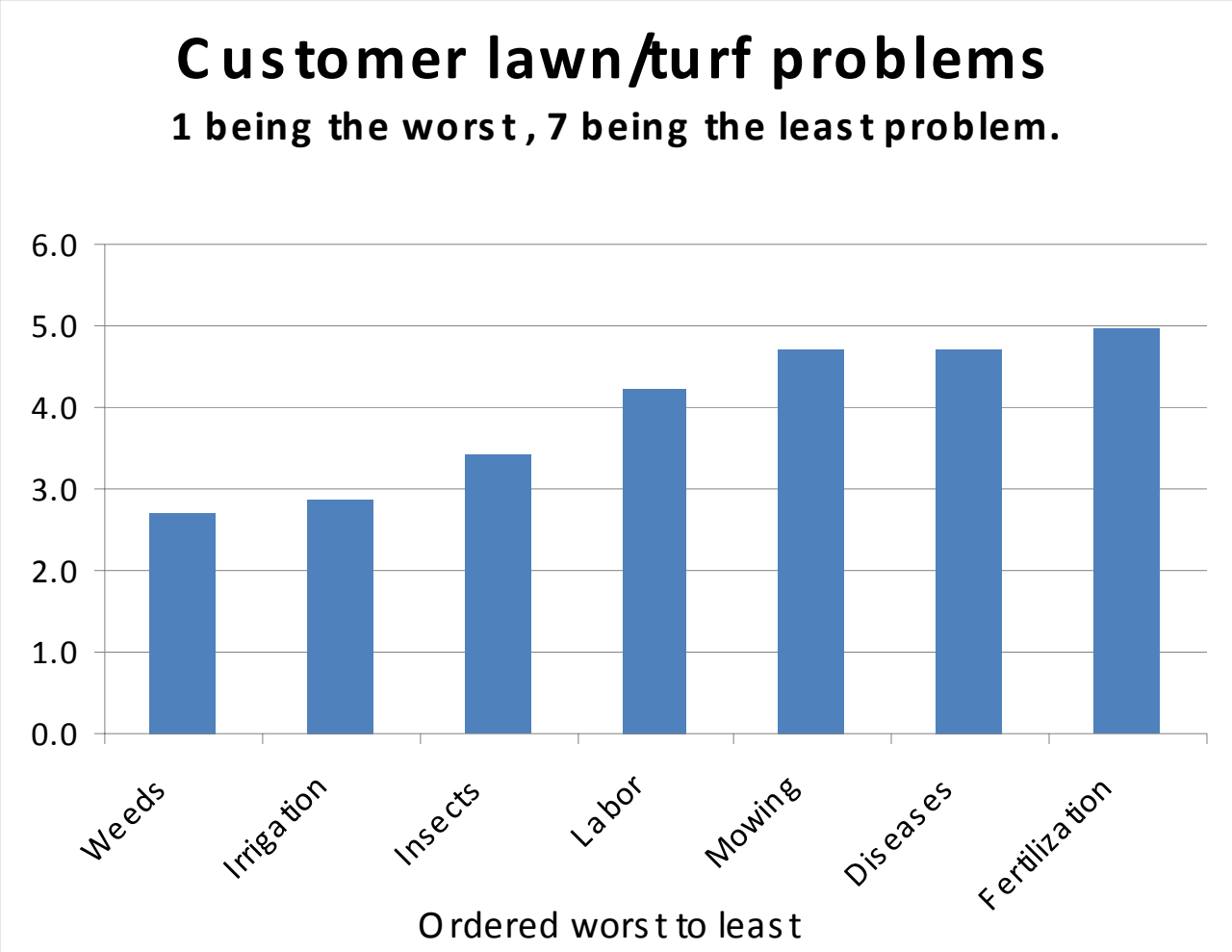
Average Number of Applications - 2.7 / year.  
Max allowed - 6 (SWFRPC)

# Residential Lawn Problems



215 responses

# Commercial Lawn Problems



34 responses

## 403.067 F.S. - “Watershed Restoration Act” (1999)

- 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

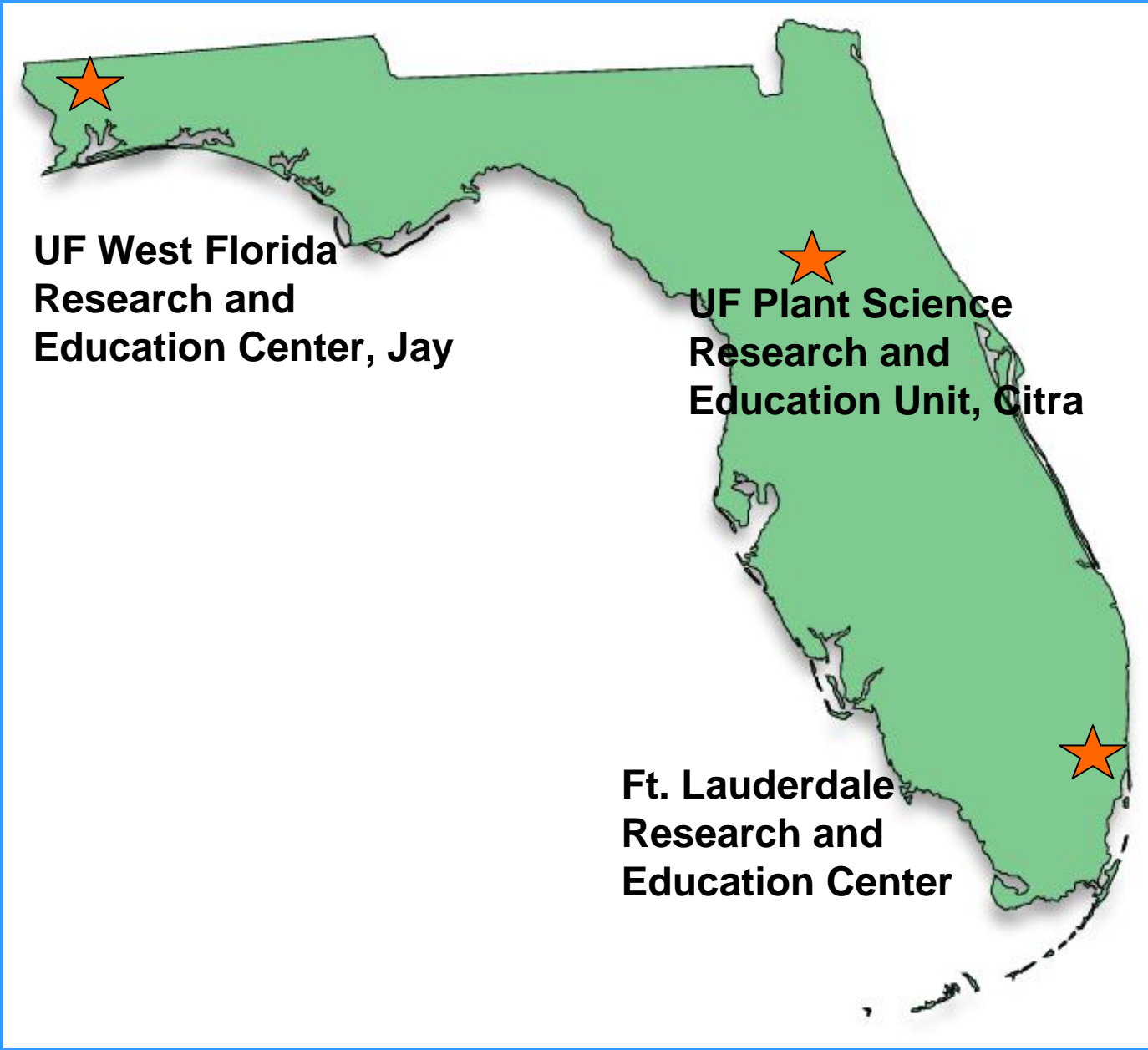
# Research Needed to Verify Fertilization BMPs

- Lawn fertilization recommendations in the past was 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



**UF West Florida  
Research and  
Education Center, Jay**

**UF Plant Science  
Research and  
Education Unit, Citra**

**Ft. Lauderdale  
Research and  
Education Center**

# 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

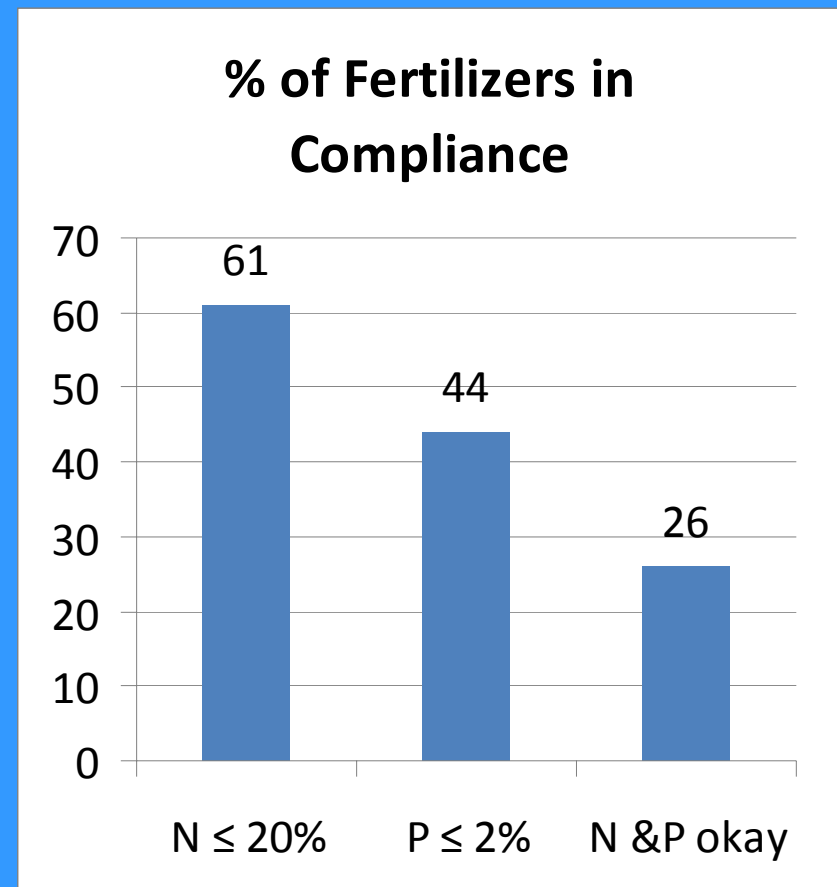
# Timeline Overview

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

- Limits application to 0.25 lbs. / 1000 sq. ft/ application
- Limits P to ½ 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

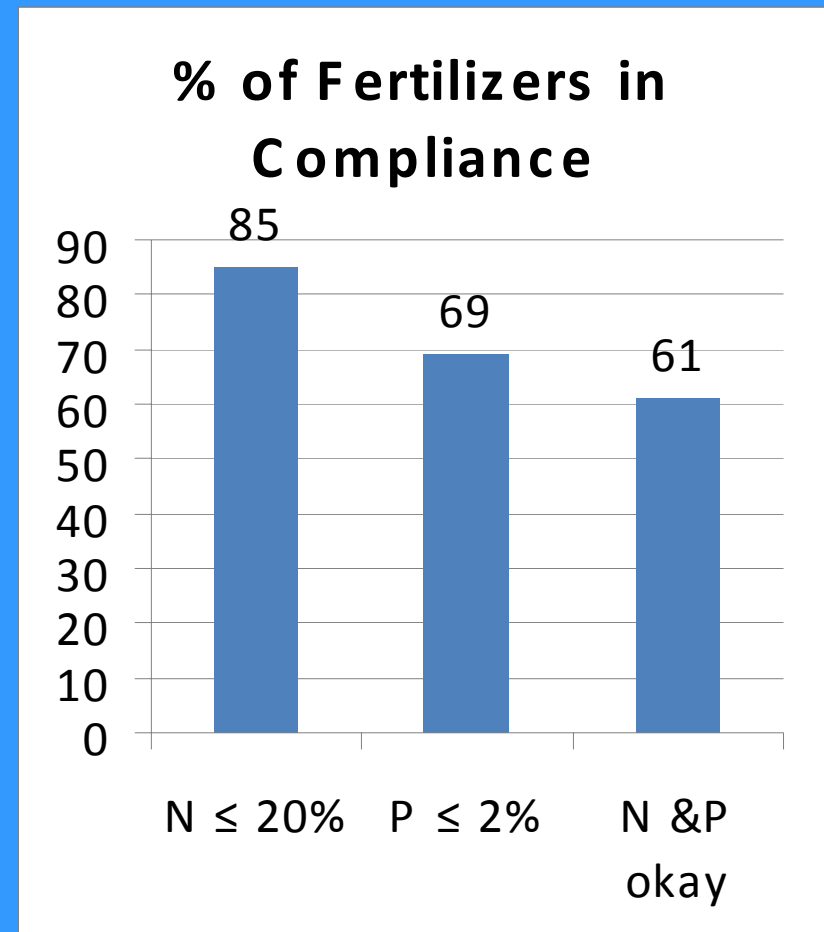
# Residential Fertilizer Compliance

- 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%.



# 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 (SWFRPC) limits nitrogen to 20% and phosphorus to 2%.



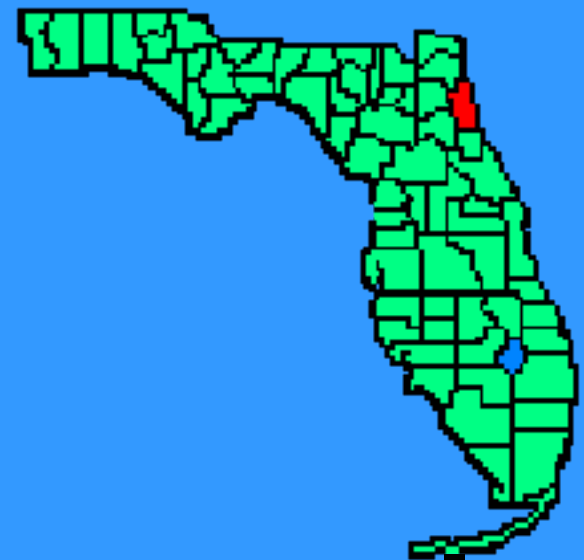
54 responses – 2 responses allowed per survey



St. Johns County, Florida  
Government Gateway  
(904) 209-0655 • info@sjcfl.us

# St. Johns County

- January 2000 ordinance required restrictions on fertilizer use in the River Marsh Basin
- No Nitrogen fertilizer between April – October
- Low Phosphorus fertilizer



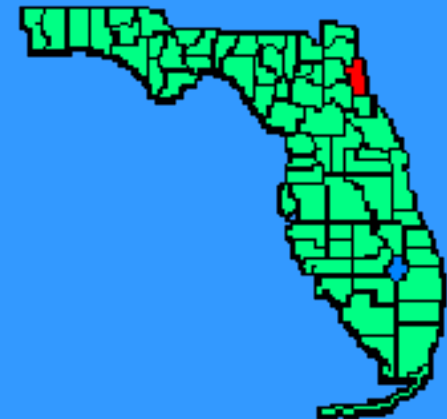




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# St. Johns County

- 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**

