

Seminole County's Fertilizer Ordinance



A Natural Choice



Workbook

www.seminolecountyfl.gov/fertilizer

***Creating Beautiful Lawns &
Protecting Our Waterways***

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MY SEMINOLE YARD GOALS

Protect our _____.

How _____ can make a difference.

Determine your _____ _____ program.

Large volumes of
stormwater can
harm our
waterways

WHY IS WATER QUALITY IMPORTANT?

THE NINE PRINCIPLES OF FLORIDA-FRIENDLY LANDSCAPING

Right _____, Right _____	Choose low maintenance plants suited for your site conditions
_____ Efficiently	Irrigate only when your lawn and plants need water
_____ Appropriately	Overutilization of fertilizers can be harmful to your yard and the environment
Mulch	Mulching retains soil moisture and reduces weeds
Recycle	Leave yard trimmings on-site to return nutrients to the soil and reduce waste
Attract _____	Yard plants provide food, water and shelter for Florida’s diverse wildlife
Control Yard _____ Responsibly	Unwise use of pesticides can harm people, pets, beneficial organisms and the environment
Reduce Water _____	Water running off your yard and paved surfaces can carry pollutants that harm water quality
Protect the _____	Waterfront property is very fragile and should be protected from pollution

Notes:

WATER MOVEMENT IN THE LANDSCAPE

True or False: All land is part of a watershed

True or False: What we do in a watershed will affect the nearest waterbody

Do these increase or decrease in the...	Natural Water Cycle	Urban Water Cycle
Evapotranspiration		
Infiltration		
Groundwater flow		
Runoff		

Our soils have _____ levels of organic matter. Organic matter _____ water holding capacity and _____ nutrient holding capacity.

Which of the following can be washed into storm drains and canals during a rainstorm?

- Trash
- Pet waste
- Household chemicals
- Septic tanks
- Fuel
- Oil
- Improperly applied fertilizer
- Grass clippings

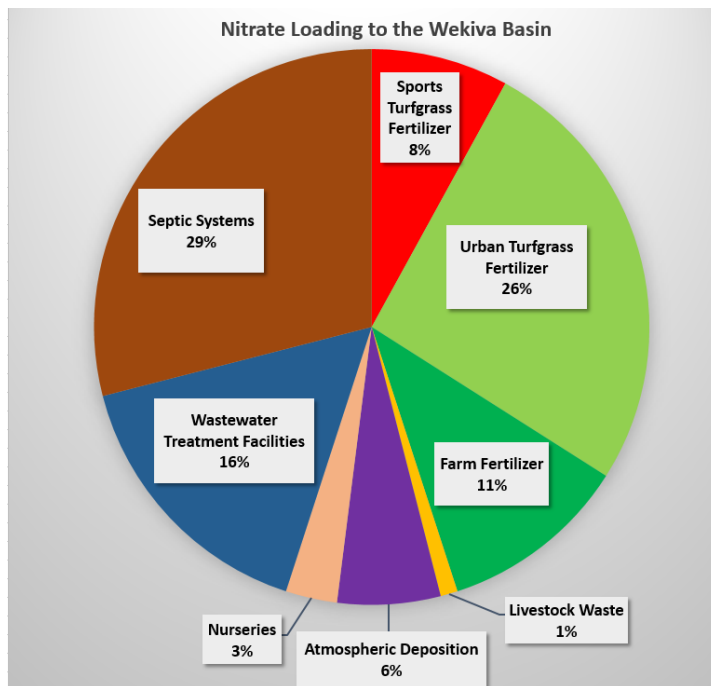
Notes:

NON-POINT SOURCE POLLUTION

Which of the following are common water pollutants in urban residential areas?

- Nitrogen
- Heavy metals
- Phosphorus
- Bacteria
- Sediments
- Potassium
- Glitter
- Oil
- Bacteria
- Grass clippings
- Pesticides
- Nuclear waste

NUTRIENT LOADING IN THE WEKIVA BASIN



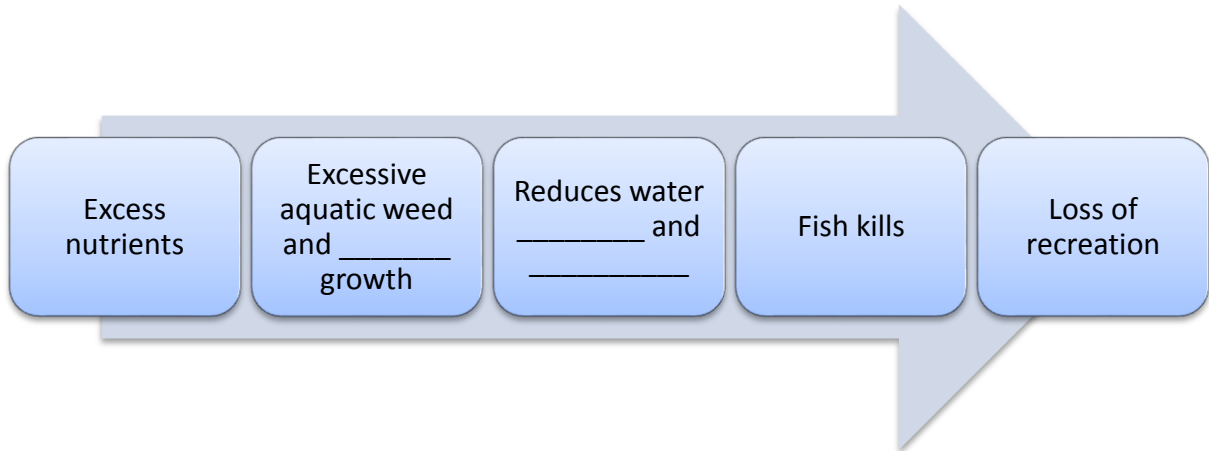
48% of the nitrates in the Wekiva Basin have resulted from fertilizers. 54 % of those fertilizers came from residential landscapes. We can help fix this piece of the pie.

For more information see the Wekiwa Spring and Rock Springs Basin Management Action Plan at <https://floridadep.gov/sites/default/files/Wekiwa%20and%20Rock%20Springs%20Final%20201>

Notes:

STORMWATER PONDS

Wet retention ponds capture stormwater runoff from our neighborhoods. Suspended materials settle to the bottom and plants absorb nutrients. Stormwater ponds only remove _____ % of nitrogen at best.



Keep ponds working by:

- Repair eroded slopes by planting shoreline vegetation
- Clear or clean inflow/outflow structures
- Clean up trash and yard waste on individual properties
- Clean around storm drains

Notes:

LAWN CARE

Irrigation

What are the top two turf stressors?

1. _____
2. _____

One of the most common mistakes homeowners make is overwatering their lawn. In general, no more than ___ to ___ inches of water should be applied per irrigation event. During the growing season, water your yard at least ___ time per week. During the cooler months when grass is not actively growing, water every ___ to ___ days.



Notes:

Since 2009, Florida Statute 373.62 requires a functioning Rain ____ device.

A rain sensor will not allow the irrigation system to run if it has recently rained.

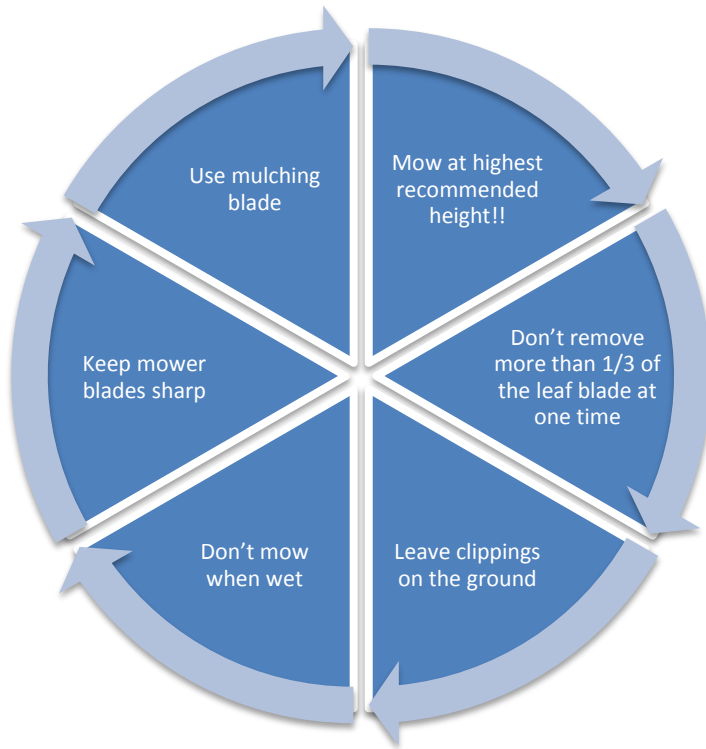


Microirrigation is a more efficient type of irrigation. You build a network of narrow _____ and small spray heads to deliver water at the base of the plants. Less water is lost to _____ and less _____ occurs.

True or False: Mature trees, palms, and shrubs require little to no supplemental irrigation (except during prolonged dry periods).

Notes:

Mowing



I have _____ grass so I mow at _____ inches

Always/ Never: Leave grass clippings on paved surfaces.

Always/ Never: Let grass clippings get into the storm drain.

On average one household generates _____ pounds of grass clippings a year. Grass clippings decompose into _____ and _____.

Notes:

PLANT NUTRIENTS

The nutrients needed by plants can be divided into two categories: macronutrients and micronutrients. Plant macronutrients are needed in the largest amounts; micronutrients are needed in the smallest amounts. It is important to remember that micronutrients, while not needed in large amounts, are just as important to plant health as macronutrients.

Plant nutrients are supplied naturally by the atmosphere, soil, or water. In the landscape, carbon, hydrogen, and oxygen are always supplied naturally. Other nutrients may be found in the soil, and occasionally in irrigation water. If a nutrient is not available naturally, then fertilizer can be added to keep plants healthy.

The two nutrients needed in the greatest quantity by turf are _____ and _____.

_____ and _____ can contribute to non-point source pollution.

MACRONUTRIENT FUNCTIONS

_____ promotes plant growth and makes up part of the chlorophyll.

_____ should only be applied if a soil test indicates deficiency. Promotes flowering and fruiting.

_____ strengthens roots; increases disease resistance and cold tolerance.

Notes:

Nutrients found in the environment

Carbon (C)
Hydrogen (H)
Oxygen (O₂)

Macronutrients

Nitrogen (N)
Phosphorus (P)
Potassium (K)
Calcium (Ca)
Magnesium (Mg)
Sulfur (S)

Micronutrients

Iron (Fe)
Manganese (Mn)
Boron (B)
Copper (Cu)
Molybdenum (Mo)
Zinc (Zn)

NITROGEN FERTILIZERS

Nitrogen is available from many different sources. The main categories of N to know are “quick release” and “slow release.”

Quick Release (also known as “water soluble” or “readily available”)

These forms of N are available to the plant immediately, and they easily leach through the soil if applied incorrectly. Quick release products are not allowed at any time in Seminole County.

Slow Release (also known as “controlled release” (CR), “water insoluble” (WIN), “other water insoluble nitrogen”)

Slow release forms of N are released slowly over time by microbes, water, soil, or temperature. Since the nitrogen is released slowly to meet turf nutrient requirements, it likely will not leach; however, if applied incorrectly, it may become a stormwater runoff pollutant. Most slow release fertilizers contain some quick release forms of N as well as slow release. Seminole County requires that a fertilizer’s total nitrogen is at least 50% or more Slow Release Nitrogen.

What are the advantages of slow release fertilizers?

Notes:

The Seminole County fertilizer ordinance states that landscape fertilizers should contain at least 50% or more slow release nitrogen.



Sulfur or poly-coated pellets extend availability of N to the plant longer than quick-release N forms.

FERTILIZER TIMING

Never apply fertilizers within _____ hours of a rain event! Rain can cause fertilizers to dissolve, leach downward through the soil or wash away down the storm drain.

During the rainy season, Seminole County has a restricted season on fertilizers with nitrogen and phosphorus from _____ to _____.

Shade in the restricted season.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	-----	-----	-----	------	-----	-----	-----

If you want to fertilize your lawn, apply fertilizer when grass is growing, not when it is dormant. Grass is dormant in times of stress (winter or droughts).

Give turf a boost in _____.

Help it last through the winter in _____.

April	16-0-8 slow release nitrogen
July	Iron (Fe) (optional)
October	15-0-15 slow release nitrogen
November	0-0-15 (optional)

Draw in arrows on when to apply fertilizer to the turf growth cycle.



Notes:

FERTILIZER ANALYSIS

Have you ever wondered what the numbers on the fertilizer label mean?

16 – 0 – 8

GUARANTEED ANALYSIS

16-0-8

TOTAL NITROGEN (N).....16.00%

16.00 % Urea Nitrogen (N)*

SOLUBLE POTASH (K₂O).....8.00%

SULFUR (S) Total.....3.5%

IRON (Fe) Total.....0.96%

MANGANESE (Mn) Total.....0.48%

DERIVED FROM: Polymer Coated Sulfur,
Coated Urea, Sulfate of Potash, Iron
sulfate, Manganese sulfate.

*8.00% Slowly Available Urea Nitrogen
from Polymer Coated Sulfur Coated Urea

*The fertilizer label is
the law!*

*More information on the
fertilizer label can be found
at:*

<http://edis.ifas.ufl.edu/ss170>

If your local fertilizer ordinance prohibits the application of Phosphorus without a soil test, can you use this fertilizer analysis?

Yes No

Does this label show a 50% slow release nitrogen product? Circle the total percent nitrogen and slow release nitrogen percent.

Notes:

FERTILIZER CALCULATIONS

Determining how much fertilizer to apply is as important as determining which analysis to use.

GUARANTEED ANALYSIS	
TOTAL NITROGEN (N).....	14.00%
14.0% Urea Nitrogen (N)*	
SOLUBLE POTASH (K ₂ O).....	26.00%
SULFUR (S) Total.....	19.70%
10.50% Free sulfur (S)	
9.20% Combined sulfur (S)	
IRON (Fe) Total.....	0.96%
0.19% Water Soluble Iron (Fe)	
MANGANESE (Mn) Total.....	0.48%
0.1% Water Soluble Manganese (Mn)	
DERIVED FROM: Polymer Coated Sulfur Coated Urea, Sulfate of Potash, Iron Oxide, Manganese Oxide.	
*7.00% Slowly Available Urea Nitrogen from Polymer Coated Sulfur Coated Urea.	

First, look at the label is determine if it is a quick-release product.

Find the total percent nitrogen (TN) and slow release nitrogen percentages (SRN).

Divide the percent slow release by the total nitrogen. Is it 0.50 (half) or greater? Yes No

_____ % SRN ÷ _____ % TN = _____

If yes, you have a slow release product!

If no, you have a quick release product. You cannot use this fertilizer. Choose a slow release product.

For a slow release product, you can apply 1 pound of nitrogen per 1000 square feet of yard. How many pounds of fertilizer do you need to put down 1 lb of nitrogen?

Divide the total percent nitrogen into 100.

100 ÷ _____ % TN = _____

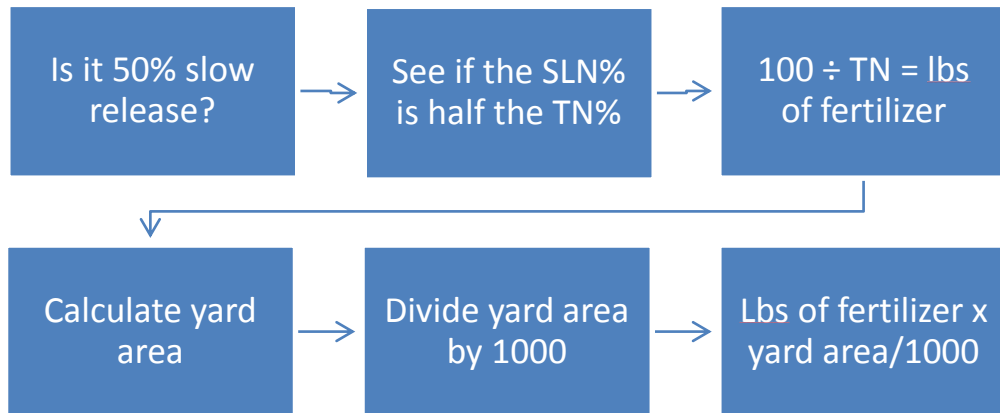


This is how many pounds of fertilizer you need per 1000 square feet!

Now we need to know how big your yard is.


Notes:

FERTILIZER CALCULATIONS



Or use our calculator! www.seminolecountyfl.gov/fertcalculator

Fertilizer Calculator	
Look at the fertilizer bag for the Total Nitrogen. This is on the front of the bag, the first of the three large numbers, or on the back of the bag on the label.	Enter Total Nitrogen: <input type="text" value="15"/> %
Also on the label, sometimes beneath the total nitrogen or at the bottom of the label, is the percent of slow release nitrogen.	Enter Slow-Release Nitrogen: <input type="text" value="10"/> %
Seminole County requires your fertilizers be 50% slow-release nitrogen. This fertilizer is a slow-release product. You can apply up to 1 pound of Nitrogen per 1000 sq ft.	Slow-Release Nitrogen Percentage: <input type="text" value="66.67"/> %
This is the pounds of fertilizer you need in order to apply 1 pound of Nitrogen per 1000 sq ft.	Fertilizer per 1,000 sq ft: <input type="text" value="6.7"/> lbs
Calculate length x width or try to visualize how many parking spaces or volleyball courts would fill your yard. A parking space is about 100 square feet and half a volley ball court is 1000 square feet.	Enter sq ft of yard: <input type="text" value="1600"/> sq ft
This is how many pounds of fertilizer you need for your yard. Measure out the pounds with a scale or take the portion of fertilizer you need based on how many pounds are in one bag.	Amount of Fertilizer to apply: <input type="text" value="11"/> lbs



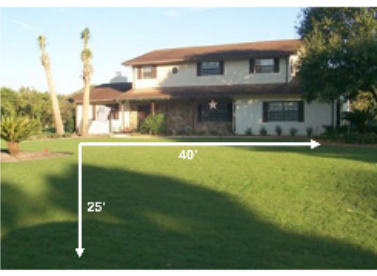
GUARANTEED ANALYSIS

TOTAL NITROGEN (N).....	14.00%
14.0% Urea Nitrogen (N).....	14.00%
SOLUBLE POTASH (K ₂ O).....	26.00%
SULFUR (S) Total.....	18.70%
10.00% Free sulfur (S).....	10.00%
8.20% Combined sulfur (S).....	8.20%
IRON (Fe) Total.....	0.55%
0.19% Water Soluble Iron (Fe).....	0.19%
MANGANESE (Mn) Total.....	0.48%
0.1% Water Soluble Manganese (Mn).....	0.1%

DERIVED FROM: Polymer Coated Urea Coated Urea, Sulfate of Potash, Iron Oxide, Manganese Oxide.

2.00% Slowly Available Urea Nitrogen from Polymer Coated Sulfur Coated Urea.

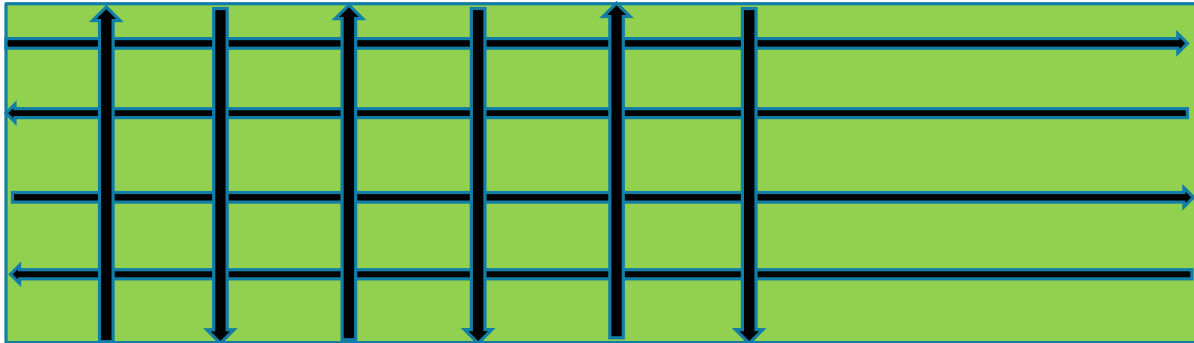
Click Image above for additional examples.



Notes:

APPLYING FERTILIZER

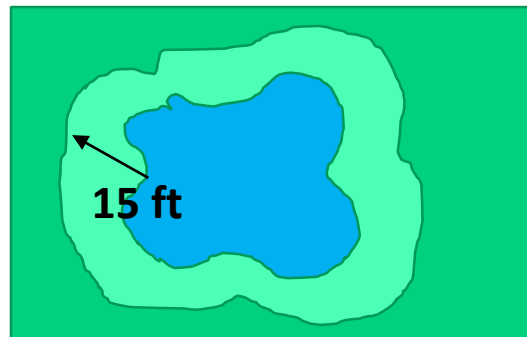
Take half of the pounds of fertilizer you need, place it in your spreader, and walk in vertical rows. When you run out of fertilizer, stop. Take the second half of the fertilizer and spread it in horizontal lines across the same space, walking faster or slower to use up the remaining fertilizer.



Keep fertilizer where it belongs! Use a _____ with your fertilizer spreader.

Seminole County has a _____ ft buffer around our waterways. Do not fertilize or leave grass clippings this close to the water.

Did you know fertilizer spreaders are meant for a 3 mph walking speed?



Notes:

LANDSCAPE CHECKLIST

Below is a checklist of Florida Friendly Landscaping™ practices that can help you maintain a healthy lawn while protecting our waterways.

- Calibrate spreader
- Install micro-irrigation system
- Calculate (measure) square footage of lawn of turf/landscape to be fertilized
- Let the grass clippings fall
- Leave a maintenance-free zone around water bodies. Do not fertilize within 15 feet of waterbodies.
- Fertilize based on a soil test (taken every other year).
- Do not apply phosphorus unless indicated by a soil test
- Use at least 50% or more slow released nitrogen
- Do not apply fertilizer if heavy rain is forecasted
- Use a shield on the fertilizer spreader to keep granules out of water bodies and off of the pavement.
- Blow or sweep all grass clipping off hard surfaces and back into the grass or compost pile
- Apply 1 pound of slow release nitrogen per 1,000 square feet to lawns when fertilizing
- After broadcasting the fertilizer, lightly water it in
- Calibrate your irrigation system to apply ½ - ¾" of water at each watering
- Install a rain shut-off device for systems run by a time clock
- During the warm months set clock to water twice a week and during the winter just once a week (following local watering restrictions)
- Water early in the morning to reduce the time that the leaf surfaces stay moist

ADDITIONAL RESOURCES

Tina McIntyre, Florida-Friendly Landscaping Seminole County

- Email: kmcintyre02@seminolecountyfl.gov
- Telephone: 407-665-5575
- UF IFAS Extension Seminole County Florida-Friendly Landscaping
<http://www.seminolecountyfl.gov/fyn>

UF/IFAS Extension Master Gardeners

- Email: mastergardener@seminolecountyfl.gov
- Telephone: 407-665-5550
- In Person: Check our website to learn more about our Master Gardener Clinic–
<http://www.seminolecountyfl.gov/departments-services/leisure-services/extension-services/adult-resources-enrichment/urban-horticulture/>

Websites

- Seminole County Fertilizer Ordinance – <http://www.seminolecountyfl.gov/fertilizer>
- Seminole County Fertilizer Calculator –
<http://www.seminolecountyfl.gov/fertcalculator>
- UF/IFAS Extension Seminole County –
<http://www.seminolecountyfl.gov/departments-services/leisure-services/extension-services/>
- Seminole Education and Restoration Volunteers --
<http://www.seminolecountyfl.gov/departments-services/public-works/watershed-management/serv-program/>
- Seminole County Water Atlas -- <http://www.seminole.wateratlas.usf.edu/>
- UF/IFAS Extension publications – <http://edis.ifas.ufl.edu>
- UF/IFAS Extension Solutions for Your Life – <http://solutionsforyourlife.ufl.edu>
- UF/IFAS Florida-Friendly Landscaping™ – <http://fyn.ifas.ufl.edu>
- Florida-Friendly Landscaping™ – <http://floridayards.org>
- St. Johns River Water Management District – <http://www.sjrwmd.com/>

LOCALLY AVAILABLE FERTILIZER

Below is a sample of slow-release nitrogen fertilizers and summertime blend fertilizers available at most mainstream retailers in Seminole County or available for purchase online.

<i>Name</i>	<i>Formulation</i>	<i>SRN %</i>
<i>Sta-Green Lawn Fertilizer Plus 2% Iron</i>	29-0-5	50% SRN
<i>Scotts Turf Builder Fall Lawn Fertilizer</i>	32-0-10	50% SRN
<i>Vigoro Lawn Fertilizer</i>	29-0-4	50% SRN
<i>Sunniland Professional Turf Fertilizer</i>	24-0-11	50% SRN
<i>Nutrite 65% Methydure & SOP</i>	13-0-20 (other formulas available)	65% SRN
<i>Ringer Lawn Restore II Fertilizer</i>	10-0-6	75% SRN
<i>CoRoN 28-0-0 SRN Liquid Fertilizer</i>	28-0-0	70% SRN
<i>Greenview Fairway Formula Lawn Fertilizer</i>	27-0-5	70% SRN
<i>Safer Brand 9333 Ringer Lawn Fertilizer</i>	10-0-6	75% SRN
<i>Nutrite ISODURE</i>	31-0-0 (other formulas available)	90% SRN
<u>Summertime Blends</u>		
<i>Sunniland Super Iron Plus</i>	0-0-0	
<i>liquid Iron</i>	0-0-0	
<i>MegaMend Natural Minerals</i>	0-0-1.3	
<i>Scott's Lawn Response Lawn Nutrient Supplement</i>	0-0-4	

APPENDIX A: FERTILIZER CALCULATION WORKSHEET

Use this worksheet to calculate how much fertilizer you will need for your lawn.

Step 1: Calculate how many square feet of turf needs to be fertilized (see Appendix C for shapes other than rectangles and squares)

Front Yard: $\frac{\text{Length}}{\text{Length}} \times \frac{\text{Width}}{\text{Width}} = \text{ft}^2$

Back Yard: $\frac{\text{Length}}{\text{Length}} \times \frac{\text{Width}}{\text{Width}} = \text{ft}^2$

Left Side Yard: $\frac{\text{Length}}{\text{Length}} \times \frac{\text{Width}}{\text{Width}} = \text{ft}^2$

Right Side Yard: $\frac{\text{Length}}{\text{Length}} \times \frac{\text{Width}}{\text{Width}} = \text{ft}^2$

Total square feet of your lawn: _____ ft ²

Step 2: Determine the percentage of N (%) in your fertilizer.

What is your fertilizer analysis? ____ - ____ - ____

The first number of your fertilizer analysis = the percentage of N in your fertilizer: ____%
--

Step 3: Determine pounds of N needed.

- Find the square feet of your lawn in the left column of the table below.
- Find the percentage of N in your fertilizer on the top row.

How many pounds of fertilizer are needed/1,000ft ² to apply 1 pound of N/1,000ft ² ? ____ lbs.

	6% N	10% N	12% N	15% N	16% N	23% N	27% N
1,000 ft ²	16.5 lbs.	10 lbs.	8.25 lbs.	6.5 lbs.	6.25 lbs.	4.25 lbs.	3.75 lbs.
1,200 ft ²	20	12	10	8	7.5	5.25	4.5
1,500 ft ²	25	15	12.5	10	9.25	6.5	5.5
2,000 ft ²	33.25	20	16.5	13.25	12.5	8.75	7.5
2,500 ft ²	41.5	25	20.75	16.5	15.5	10.75	9.25
3,000 ft ²	50	30	25	20	18.75	13	11
3,500 ft ²	58.25	35	29	23.25	21.75	15.25	13
4,000 ft ²	66.5	40	33.25	26.5	25	17.5	14.75
4,500 ft ²	75	45	37.5	30	28	19.5	16.5
5,000 ft ²	83.25	50	41.5	33.25	31.25	21.75	18.5

APPENDIX B

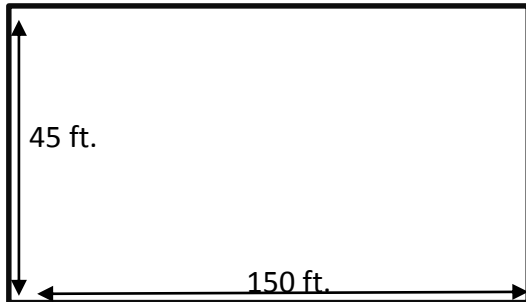
Time of year	Homes with odd numbered or no addresses	Homes with even numbered addresses	Nonresidential properties
Daylight saving time	Wednesday/Saturday	Thursday/Sunday	Tuesday/Friday
Eastern Standard Time	Saturday	Sunday	Tuesday

- Daylight saving time: Second Sunday in March until the first Sunday in November
- Eastern Standard Time: First Sunday in November until the second Sunday in March
- An odd numbered address is one that ends in 1, 3, 5, 7 or 9.
- An even numbered address is one that ends in 0, 2, 4, 6 or 8.
- Water only when needed and not between 10 a.m. and 4 p.m.
- Water for no more than one hour per zone.
- Restrictions apply to private wells and pumps, ground or surface water and water from public and private utilities.
- Some exceptions apply.

<http://www.sjrwmd.com/wateringrestrictions/>

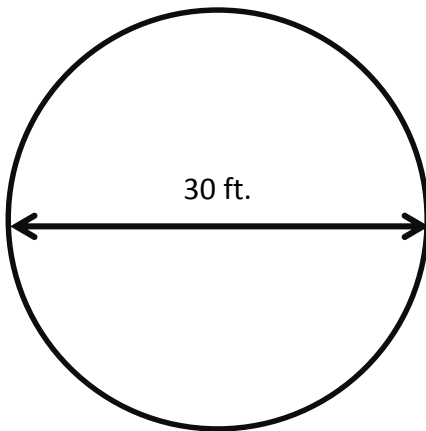
APPENDIX C

Square foot calculations



Rectangle: Length x width = square feet

$$150 \times 45 = 6,750 \text{ ft}^2$$



Circle: $A = \pi r^2$

$r = \text{diameter} \div 2$

$$\pi = 3.16$$

Step 1: find the radius

$$30 \div 2 = 15$$

Step 2: find the area

$$3.16 \times 15 \times 15 = 711 \text{ ft}^2$$

Triangle: $A = \frac{1}{2}bh$

$$b = 64, h = 120$$

Step 1:

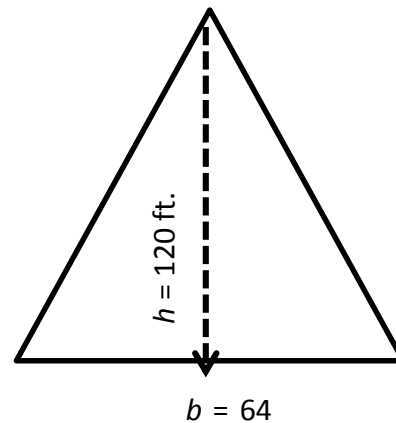
$$64 \times 120 = 7,680$$

Step 2:

$$7,680 \times \frac{1}{2} = 3,840 \text{ ft}^2$$

Or

$$7,680 \times 0.5 = 3,840 \text{ ft}^2$$



ACKNOWLEDGEMENTS

Tina McIntyre, Florida-Friendly Landscaping Agent

Tina works with homeowners, community groups, landscapers and new developers. Contact her by email at k.mcintyre@ufl.edu or by telephone at 407-665-5575

Terrence Fullerton, Fertilizer Educator

Terrence specializes in soils and fertilizers, works with residents, Home-Owners Associations, nurseries and retail stores. You can reach him at tfullerton@seminolecountyfl.gov or call 407-665-5560 (ask for Terrence)

Kaydie McCormick, Residential Horticulture

Kaydie trains UF/IFAS Extension Master Gardeners and provides landscape and garden educational programs to homeowners. Kaydie can be contacted at kmccormick@ufl.edu or by telephone at 407-665-5558.

For gardening questions, contact a **Master Gardener** at mastergardener@seminolecountyfl.gov or call 407-665-5550.

Hannah Wooten, Sustainable Agriculture and Food Systems

Hannah works with farmers and landscapers to provide economically and environmentally sustainable solutions. She can be reached at hwooten@ufl.edu or 407-665-5554.

Elizabeth Stephens, Seminole Education, Restoration & Volunteer (SERV) Program

Elizabeth coordinates SERV volunteers to educate residents on water quality issues and restore local waterways. She can be reached at serv@seminolecountyfl.gov .

Our thanks to UF/IFAS Extension Brevard County and The Brevard Yard resources.

