FLORIDA MASTER GARDENER

Landscape Planting and Maintenance

UF | IFAS Extension
UNIVERSITY of FLORIDA

Learning Objectives

- Describe the proper procedure for planting a landscape plant.
- Know how to successfully establish a landscape plant.
- Be familiar with recommended landscape maintenance practices (mulching, fertilizing, irrigating, and cold protection).
- Identify important structural pruning techniques for young and mature trees.
- Understand various approaches to pruning shrubs, palms, and ornamental grasses.

PART I – PLANTING AND ESTABLISHMENT

Before you Dig…

- Prepare the planting bed.
  - ✓Remove grass and/or weeds.
    - Hand pull
    - Apply post-emergent herbicides 2-3 weeks before planting
    - Smother weeds with black plastic or several layers of newspaper
  - ✓Call 811 before you dig!
  - ✓ Till or turn 8-12” or more deep.
  - ✓Amend the entire bed (if desired).

Before you Plant…

Step 1:

Water plants well – never plant a dry plant.

Step 2:

Prepare the rootball.

Step 3

Dig the hole.

Prepare the Rootball

- Locate the root flare where the top-most root emerges from the trunk.
- Remove any soil and roots over the root flare.

Prepare the Rootball

Cut circling roots

Girdling root on mature tree

Prepare the Rootball

Shave the Rootball

Prepare the Rootball

Rootball – before and after shaving

New roots will grow quickly into backfill soil following cutting

Prepare the Rootball

Balled and Burlapped (B&B)

Wire baskets, synthetic wraps, and burlap should be removed from the root ball (as much as possible).

Synthetic materials don't decompose and will inhibit root growth.

Planting Hole Width

Dig the planting hole at least 1½ times the width of the rootball.

Planting Hole Depth

Dig the hole slightly shallower than the height of the root ball.

Planting Hole

What about fertilizer?

- No fertilizer in the planting hole!
- Soluble (quick release) fertilizer can burn roots and kill the plant.
- Fertilize 4-6 weeks after planting.

Planting Steps

Step 1:

Position the plant in the hole

Step 2:

Backfill

Step 3

Water

Step 4

Stake if needed

Set & Straighten the Plant

Before backfilling, make sure the plant is straight.

Planting - Backfill

- Backfill with the removed soil.
- Keep backfill off the top of the root ball.
- Do not compact the backfill.
- Add water as you fill the hole to remove air pockets.

Planting - Backfill

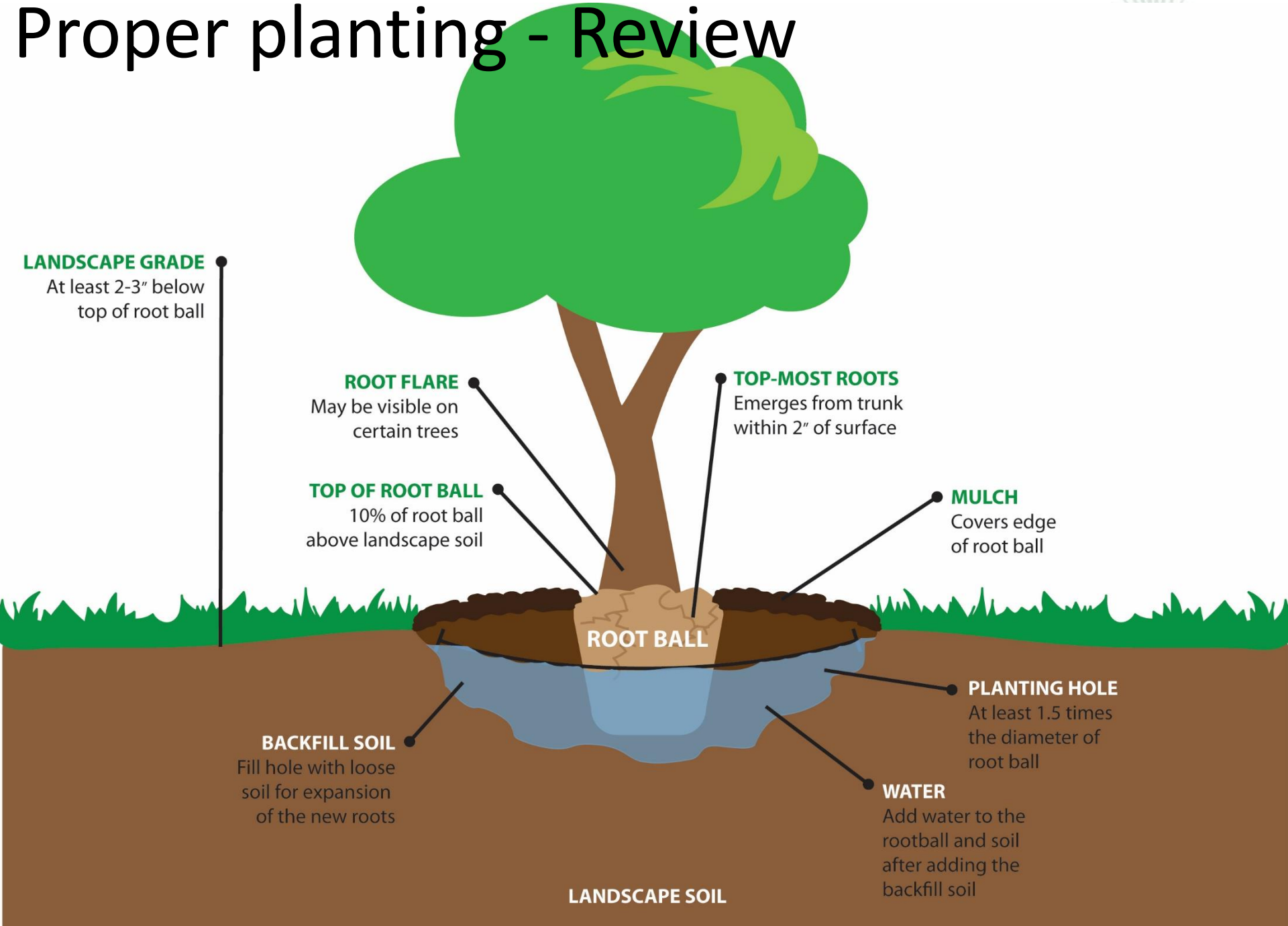
Good job! No soil over root ball

Bad job! Soil over root ball

Planting

- 1 – 2 inches of the root ball remains above ground.
- This ensures the top-most root remains above ground, even if the root ball settles.
- Add mulch to the edge of the root ball.

Proper planting - Review



Staking

3 Rules of Thumb:

- Stake only when necessary.
- Attach ties as low as possible.
- Remove staking materials within the same year.

Establishment - Irrigation

- Container-grown plants dry out quickly after planting.
- Plants establish fastest with light, frequent irrigation.
- True for native and non-native plants alike

Establishment - Irrigation

At each irrigation…

- Trees: apply 2-3 gallons of water per inch of trunk diameter (caliper)
- Shrubs (3-gallon): 1 gallon of water
- Apply water directly to the top of the root ball and to several inches of surrounding soil.
- Don’t water if the root ball is wet.

Establishment - Irrigation*

Trees

Size of Nursery Stock	Irrigation Schedule for Establishment	Irrigation Schedule for Vigor
< 2 inch caliper	2x/week for 2-3 months	1x/day for 2 weeks; every other day for 2 months; weekly until established
2-4 inch caliper	2x/week for 3-4 months	1x/day for 1 month; every other day for 3 months; weekly until established
> 4 inch caliper	2x/week for 4-5 months	1x/day for 6 weeks; every other day for 5 months; weekly until established

*2-3 gallons per application

Establishment - Irrigation*

(3-gallon Shrubs)

Location	Irrigation Schedule for Establishment	Irrigation Schedule for Vigor
North FL	Every 8 days	Every 4 days
Central/South FL	Every 4 days	Every 2 days

*1 gallon per application

Note: Plants from smaller containers require irrigation for a shorter period of time, whereas plants in larger containers typically take longer to establish.

Establishment - Irrigation

Trees and shrubs provided with regular irrigation through the first growing season require:

- ~3 months (hardiness zones 9-11)
- ~6 months (zone 8),

…per inch of trunk diameter to fully establish roots.

Establishment - Irrigation

Watering bags or a “nurse” irrigation system can help.

Establishment - Mulching

Summary: Establishment

Encourages growth	Limits growth	Little or no effect
loose soil	compacted soil	peat or organic matter added to backfill soil
proper irrigation management	little or no irrigation	root stimulant products
mulch 8' or more around planting hole	grass and weeds close to trunk	fertilizing at planting
root flare slightly above soil surface	planting too deep	adding spores of mycorrhizae*
leaving top of tree intact	pruning at planting	water absorbing gels

*can enhance growth on seedlings under certain circumstances

LANDSCAPE MAINTENANCE

Tree and Shrub Maintenance

Florida-Friendly Landscaping™ PROGRAM

Mulching

<u>Benefits:</u>

- Retains soil moisture (reduces evaporation)
- Buffers soil temperatures
- Inhibits weed growth
- Can improve soil
- Protects plants
- Adds beauty
- Reduces soil erosion

Improper Mulching

“Volcano mulching”

Mulching

- Maintain a 2-3” layer of mulch (after settling)
  - 4” for coarse materials (pine bark nuggets)
  - Avoid direct contact with trunk/base of plants

Watering

- Most established plants are drought tolerant and require little or no irrigation.
- Shallow-rooted shrubs (azaleas) may require irrigation during extended drought periods.
- After establishment, water on an "as-needed" basis. Frequency of irrigation will depend on soil type, exposure to sunlight, rainfall, and season of the year.

Watering

Consider "Zoning"

- Oasis zone: Visible areas like front yard and entranceways

  - Turf and bedding plants typically require more water.

- Natural zone: Less visible areas like sides of home and remote areas

  - Adapted, drought tolerant plants with low water demands

- Transition zone:
  - Area that receives less water than the oasis area but more water than the natural area

Watering

Irrigate Efficiently

- Separate irrigation zones for turf and plant beds.
- Don’t water non-target areas (sidewalks, driveways, etc.).
- Calibrate irrigation system to apply ½ - ¾ inch/application.
- Inspect rain shut-off device (required by Florida statute on on automatic systems).
- Check for broken/misaligned/blocked/clogged heads.
- Use a rain gauge.
- Water as needed; less in winter and summer rainy season.
- Water early in the day.
- Follow municipal and WMD watering rules.

Watering

Microirrigation

- Drip tubing, drip emitters, micro-sprinklers
- Applies water slowly and efficiently
- Ideal for narrow plantings, oasis areas, and containers.

Fertilizing

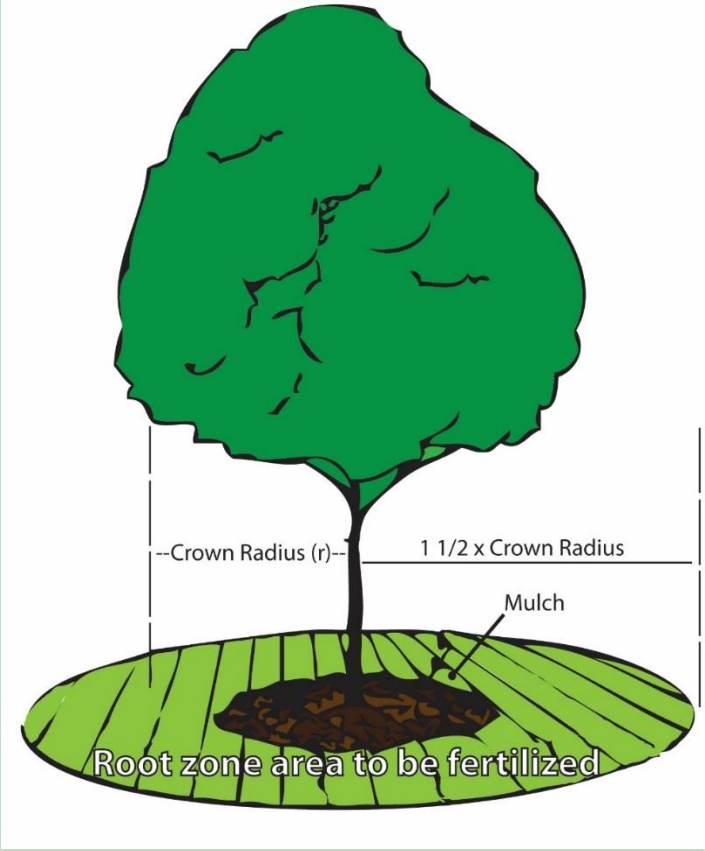
May be justified to:

- Encourage faster growth
- Improve flowering, fruiting, or appearance
- Correct or prevent nutrient deficiencies

Fertilizing

Where?

- Fertilizer applied to the lawn and shrub beds often meets the nutritional needs of surrounding trees.



Fertilizing

Level of Maintenance	Amount of Nitrogen Fertilizer
Basic	**1-2 pounds N / 1000 sq ft / yr**

	% Nitrogen in Fertilizer								
Area (sq ft)	**6%**	**8%**	**10%**	**12%**	**14%**	**15%**	**16%**	**18%**	**20%**
1	0.15 oz 1 tsp	0.1 oz ½ tsp	0.1 oz ½ tsp	0.1 oz ½ tsp	< 0.1 oz ¼ tsp	< 0.1 oz ¼ tsp	< 0.1 oz ¼ tsp	< 0.1 oz ¼ tsp	< 0.1 oz ¼ tsp
5	0.7 oz 1 ½ TB	0.5 oz 1 TB	0.4 oz 2 ½ tsp	0.3 oz 2 ¼ tsp	0.3 oz 2 ¼ tsp	0.25 oz 2 ¼ tsp	0.25 oz 2 ¼ tsp	0.25 oz 2 ¼ tsp	0.2 oz 2 ¼ tsp
10	1.3 oz 3 TB	1 oz 2 TB	0.8 oz 1 ½ TB	0.7 oz 1 ½ TB	0.6 oz 1 TB	0.5 oz 1 TB	0.5 oz 1 TB	0.5 oz 1 TB	0.4 oz 2 ¼ tsp

This chart explains the approximate weight of fertilizer to use for a given landscape bed area in ounces and also in teaspoons/tablespoons to deliver **½ lb N / 1000 sq ft** (the recommended rate for a single application of quick release fertilizer). If applying a fertilizer product that has at least 30% slow-release nitrogen, these rates can be doubled to deliver 1 lb N / 1000 sq ft. In other words, a quick release fertilizer could be applied 2-4 times per year using the amounts above, or a slow-release fertilizer could be applied 1-2 times per year by doubling the amounts above.

Cold Protection

Types of Freezes

- Radiational Freezes and Frosts
  - occur on calm, clear nights
  - moist air = frost damage
  - dry air = freeze damage, no frost
  - covers minimize damage
- Advective Freezes
  - “artic clippers”
  - sudden drop in temperature
  - windy conditions make covers difficult

Cold Protection

- Water 24 to 48 hours before a freeze.
- Covers should extend *to the ground* to trap heat released from soil.
- Home irrigation systems are not designed for cold protection.

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