
Grades & Standards, Quality Trees for Florida

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Good design, selection and care leads to success



Healthy trees increase property value, intercept air pollutants, buffer temperatures, reduce wind speed, cool the city, reduce runoff from storms, encourage people to visit and spend money at shops, and create a more inviting community

Success – small maturing street trees



What else is need for success?

Tree & Site Selection, **Quality Trees**,

Proper Planting & Establishment, Maintenance & Care

Why do quality trees matter?

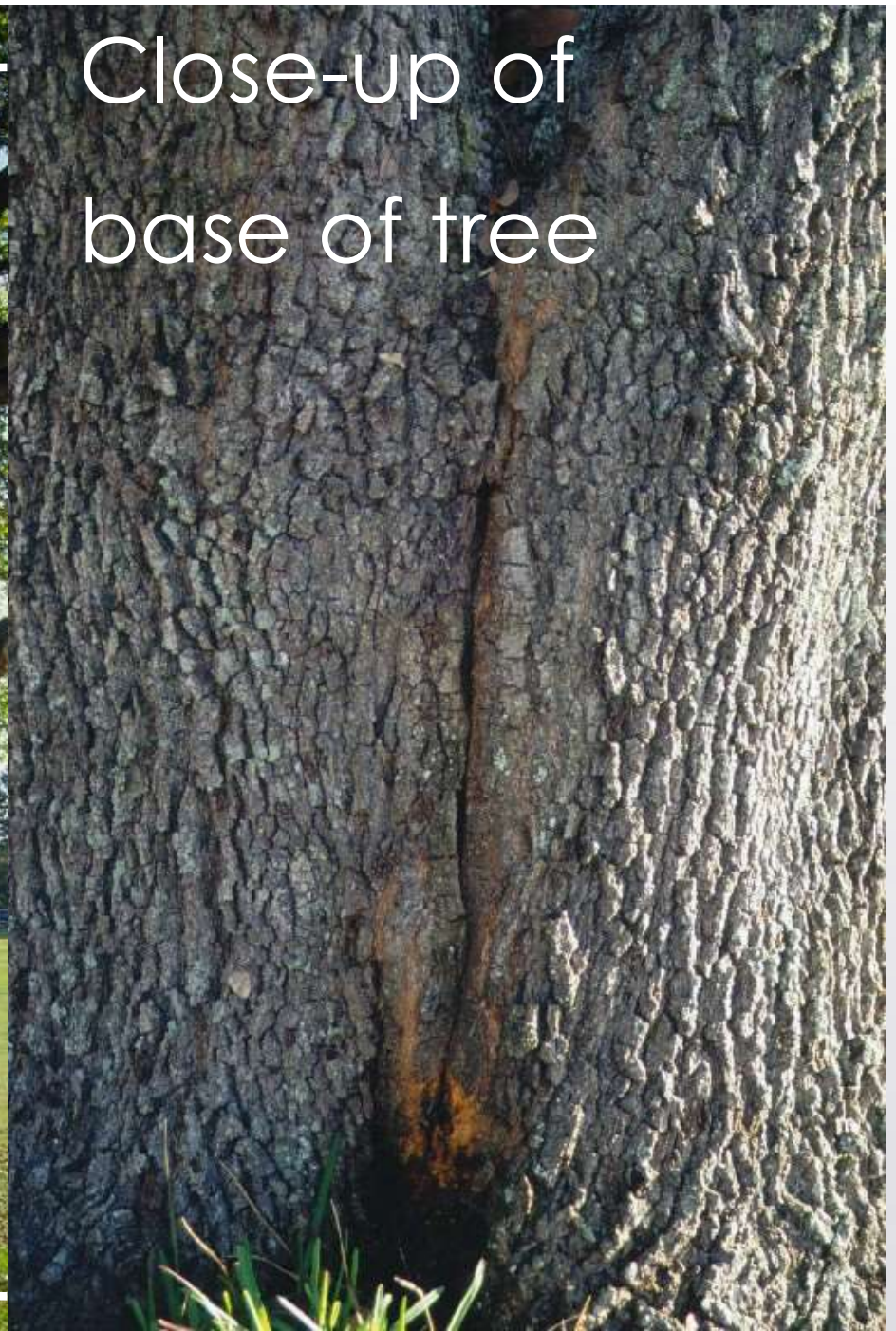


Poor versus good quality





Close-up of
base of tree



Seven years later: tree failed





Root deformations and root depth impact quality





This tree was found leaning after a hurricane, the cause...

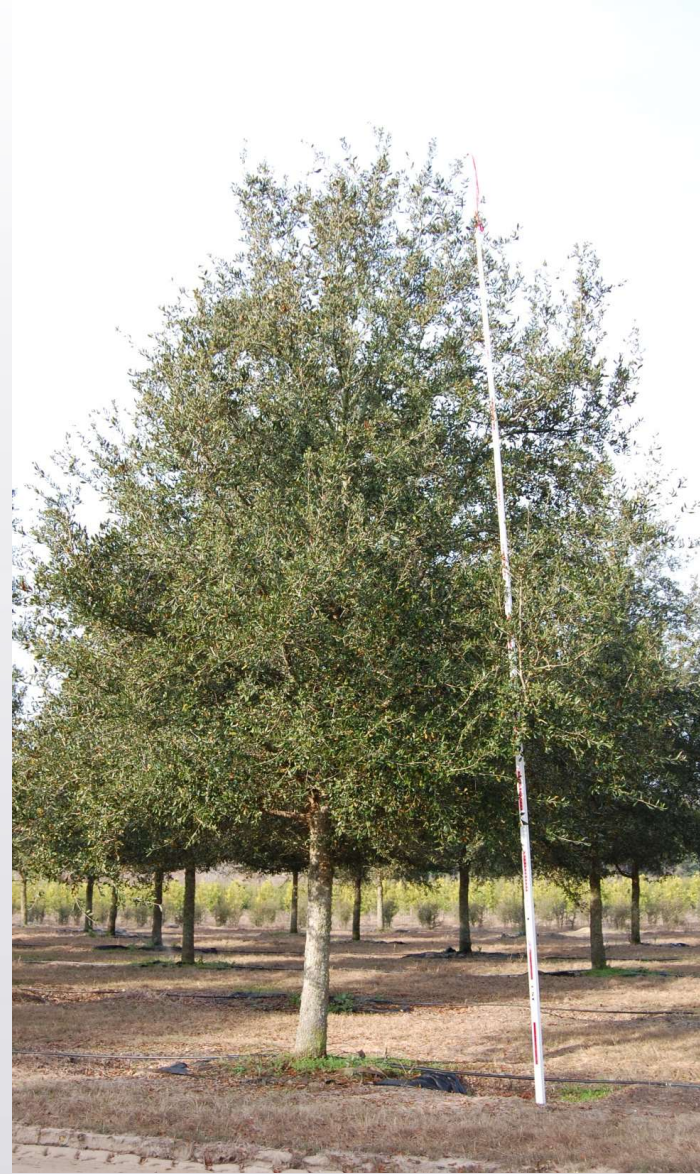
circling roots



Advantages to quality trees

- Trees thrive, not just survive, post-planting
- Shorter period of time needed for establishment
- Reduces maintenance and care needed
- Reduces likelihood of failure from canopy or root system defects during storms or as trees grow
- Greater longevity in the landscape

Arboriculture starts in the nursery



Florida Grades & Standards: Trees

Began in 1955, major revision in 1998, 2015 edition, newest revision 2022

Tree quality at planting can have a great impact on longevity in the landscape

Four grades exist for nursery plants in Florida. These include:

- Florida Fancy
- Florida #1
- Florida #2
- Cull

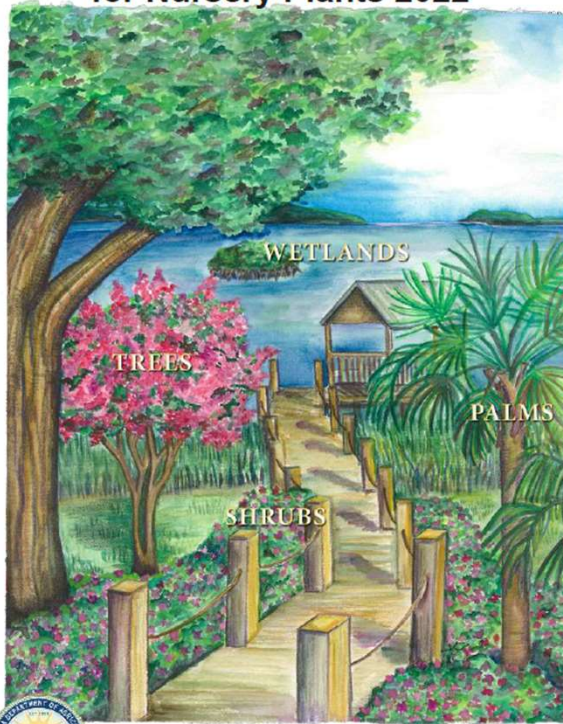


Grades & Standards History

- Voluntary for industry, published 1959, 1963, 1973, 1998, 2015, 2022 Section 581.031 (2)(3), Florida Statutes
- Managed by Florida Department of Agriculture & Consumer Services (FDACS), Division of Plant Industry (DPI)
- 1998 update introduced significant changes with 10 steps for trees, this was a big turning point for the industry
- 2015 & 2022 updates streamlined and simplified
- Establishes a vehicle for buyer and seller communication
- Widespread adoption in specifications and ordinances, G&S has become essentially mandatory



**Florida Grades and Standards
for Nursery Plants 2022**



Florida Department of Agriculture and Consumer Services

- Florida Fancy
- Florida #1
- Florida #2
- Cull

7 Steps for determining tree grade

- **Step 1-** Choose matrix, measure trunk caliper
- **Step 2-** Trunk structure
- **Step 3-** Crown uniformity
- **Step 4-** Record lowest grade in steps 2,3
- **Step 5-** Major downgrading factors
 - Tree height, crown diameter, root ball integrity, root ball size, stake required
- **Step 6-** Minor downgrading factors
 - Flush cuts, branch stubs, trunk wounds, necrosis/chlorosis/pest, crown thin, included bark
- **Step 7-** Root structure
 - Root depth, root circling, lateral roots

Florida Fancy

- Single trunk
- Branch diameter smaller than 2/3
- Tree height and crown diameter properly proportioned
- Crown uniform
- Root ball is appropriately sized
- No downgrading factors
- Quality root system



Type 1 Matrix: live oak



Type 1 Matrix: black-olive



Type 2 Matrix: East Palatka holly



Type 2 Matrix: bald-cypress



Type 3 Matrix: wax privet



Type 3 Matrix: loblolly bay

Florida # 1

- Double leader in top half of tree
- Requires some pruning to develop good structure
- Tree height and crown diameter properly proportioned
- Crown uniform
- Has minor trunk injuries or other downgrades
- Quality root system



Type 1 Matrix: live oak



Type 1 Matrix: sycamore



Type 2 Matrix: East Palatka holly



Type 2 Matrix: bald-cypress



Type 1 Matrix: red maple



Type 1 Matrix: sweetgum

Florida #2

- Double leader on bottom half of the tree
- Trees are misshapen or require major corrective pruning
- Defects may take several years to correct
- Multiple possible downgrading factors
- Crown not uniform
- Poor quality root system



Type 1 Matrix: live oak



Type 1 Matrix: black-olive



Type 1 Matrix: red maple



Type 1 Matrix: sweetgum



Type 3 Matrix: citrus



Type 3 Matrix: loblolly bay

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Grades & Standards Industry Impact

- Tree Quality
- Universal Specification
- Common Terminology
- Decreased Liability
- Increased Professionalism



Grades & Standards Industry Challenges

- Subjectivity & Consistency
- Hyper-expectation
- Specified Not Enforced
- Difficult Species
- Root System Quality



Roots Plus Growers (RPG)

- Started in mid-1990's to guarantee consumer highest quality field grown trees
- 8 grower & 4 associate members
- Provide educational materials to industry - Tree Grading, Planting & Pruning Cue Cards
- Sponsor Research, Educational Workshops & Industry Events
- www.rootsplusgrowers.org



What is a quality field-grown tree?

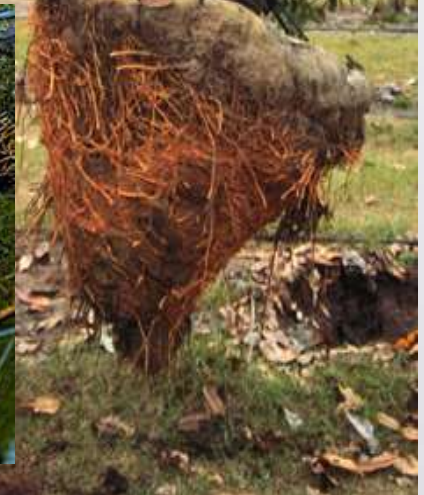
- Grown in native soils in a nursery environment, root pruned by species
- Harvested and hardened-off prior to sale
- RPG Trees are hardened off for a minimum of 3-4 weeks after harvesting



Hardening-off

-After harvesting the tree is held with optimum irrigation until regenerated roots are visible (4 to 6 weeks)

-Quality field-grown trees must be hardened-off just like quality container grown trees must be rooted out

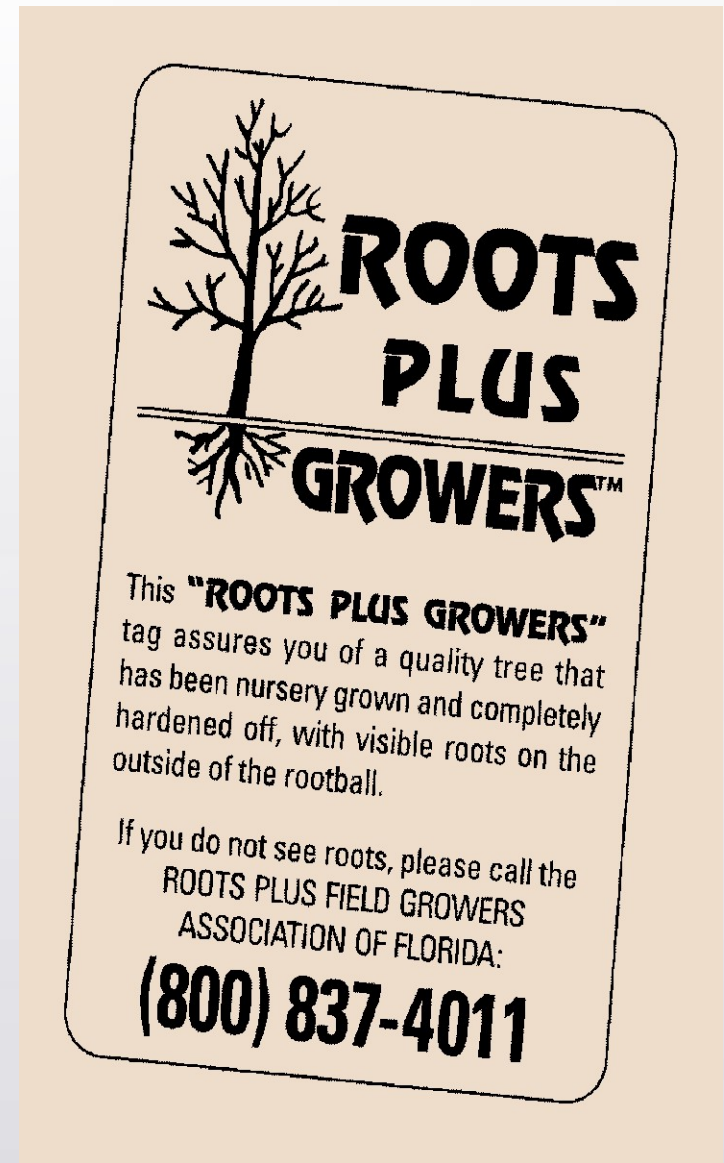


RPG

RPG Trees are specified by Landscape Architects, municipalities and developers

Roots Plus tag is placed on orders shipped by an RPG grower

RPG trees have a special designation of "RPG" in industry inventory websites and publications



Quality Roots - Field Grown Trees

- Remove defects before planting
- Root pruning
- Hardened-off / RPG
- Proper root ball size
- Straight roots



Benefits of field-grown Trees

- Native soils, establish quicker
- Deeper and heavier root ball
- Large tree production
- Trees lifted by the root ball
- Natural root system -
NO deformed roots



Quality Roots - Container Grown Trees

- Straight Roots
- Root manipulating containers
- Root cutting/shaving during production
- Proper root ball size



Conclusions about root defects

- Root defects have a significant impact on tree performance in the landscape.
- Defects can occur on all trees regardless of the production method.
- Problems are easier to correct in the nursery when the tree is young; some correction can occur at the time of planting.
- Deep planted trees encourages girdling root development



Tree establishment in the landscape by production method and irrigation practices after planting

Production method	With frequent irrigation after planting	With infrequent irrigation after planting
Container: above ground or pot-in-pot	very good to excellent	fair
Fabric containers in ground	very good to excellent	poor to fair
B&B not root pruned	fair to good	poor to fair
B&B root pruned	excellent	good
Bare root	excellent	good

* B&B = field-grown Balled-in-burlap

Production Method/Irrigation Summary

Under limited irrigation:

- Root pruned, hardened-off B&B – last to die
- Containers – in the middle
- Recently dug B&B – first to die

Under appropriate, intensive irrigation:

Both production methods perform well

Support Tree Education & Research

