
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
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Nature's Course: Finding
Balance in Changing Tides
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Specifying: The Art and Science of Detailing Contractual Requirements for the Use of Landscape Palms

Presented by:
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Justification for Grades & Standards

- Who cares?
- As mandated by Florida Legislature (1950s)- “The nursery industry must precisely communicate the attributes of its valued product.”
- More specifically:
  - Establish an objective process which elevates the quality of products and processes within the green industry and thereby the status of the industry at large.
  - Provide a common language for terms, concepts and processes.
  - Reduce conflict or at least provide a means of resolution.
- Where do we look for models?

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INTRODUCTION TO PALM GRADING

Florida's Grades & Standards for Palms has two separate and distinct sections; Grading and Specifying.

Florida Grades and Standards for Palms is constructed for those who are tasked with the responsibility of grading palms intended for landscape installation. The grading process is based on criteria used to evaluate the current health and potential for the successful reestablishment of palms. Grading is performed by examining the leaves, trunk and root ball. **The grade of the palm is assigned at the time of delivery.** The grading of palms is specific to this application and timeframe. This approach allows contractors, municipalities, inspectors and others charged with grading palms, to grade objectively using benchmarks to identify quality-grown palms with health characteristics that have the potential for transplant and reestablishment success.

The Specifying Section offers ***unambiguous*** definitions and a process for palm specifying to facilitate better communication between landscape professionals. A specifier may include additional design and contractual specifications such as, maintaining a grade over time, or specific palm forms and dimensional characteristics. Specifications are not used in grading process.

Palm Grades

Florida Fancy: A palm with no eliminating factors as determined in Step 1 and meets the requirements for a grade of Florida Fancy in accordance with Table 1 (Step 2).

Florida No. 1: A palm with no eliminating factors as determined in Step 1 and only meets the requirements for a grade of Florida No. 1 in accordance with Table 1 (Step 2).

Florida No. 2: A palm with no eliminating factors as determined in Step 1 and only meets the requirements for a grade of Florida No.2 in accordance with Table 1 (Step 2).

***Cull trees are not gradable

STEPS for DETERMINING PALM GRADE:

Step 1. Examine the palm using the list of eliminating factors. If there are no eliminating factors, proceed to Step 2.

Eliminating factors are severe problems that decrease the chance for success/survival in the new site. If one or more statements is true, the palm is not gradable.

Eliminating Factors:

a) Evidence of palm weevils or symptoms of lethal diseases such as Fusarium wilt, phytoplasma diseases, Ganoderma butt rot, Thielaviopsis trunk rot or Phytophtora bud rot.
b) Wood boring insect damage.
c) Depressions or other trunk damage showing or indicative of vascular tissue damage. Excluding pup scars in clonally produced palms, pesticide injection sites, and naturally occurring vertical fissures less than one inch in depth.
d) Extreme succulence.
e) Naturally occurring vertical fissures exceeding one inch in depth.

Step 2. *Refer to Table 1 to assign the palm grade based on the minimum leaf count, leaf quality and root ball measurement of the species being graded. Failure to meet the minimum requirements for root ball measurement or Florida No. 2 leaf count and/or quality in Table 1 renders the palm a cull.*

REQUIREMENTS FOR LEAF COUNT AND ROOT BALL MEASUREMENT

Each of the palm species in Table 1 has been assigned a minimum leaf count of good or excellent leaves and root ball measurement (additional requirement for Regenerated Cabbage Palms) to qualify as gradable. ***For any regenerated palm, all grading standards apply except root ball measurement. Regenerated palms will be graded as containerized palms.*** Note that minimum leaf counts are to establish a root-to-shoot ratio for transplant success and are not necessarily the recommended leaf counts for established palms.

Species not listed in Table 1 are graded using the eliminating factors other than the minimum leaf count and root ball measurement. For clustering palms and single trunked palms intentionally grown with more than one trunk, each primary trunk is graded as a single trunk palm. The final grade of the palm is the lowest grade applied to the primary trunks.

Table 1.

SCIENTIFIC NAME	COMMON NAME	(1) MINIMUM LEAF COUNT			(2) MINIMUM ROOT BALL MEASUREMENT IN INCHES BASED ON OVERALL HEIGHT (OA)		
		FL FANCY Excellent Leaves	FL No. 1 Good or Excellent Leaves	FL No. 2 Good or Excellent Leaves	Max OA Height or Less = # inches	More than # ft and less than # ft = # inches	Max OA Height or More = # inches
Acoelorraphe wrightii	Paurotis Palm	6	5	4	4 at any OA		
Adonidia merrillii	Christmas Palm	6	5	4	6 at any OA		
Archontophoenix alexandrae	Alexandra Palm	5	4	3	6 at any OA		
Archontophoenix	Piccabeen Palm	5	4	3	6 at any OA		
Arenga engleri	Dwarf Sugar Palm	5	4	3	4 at any OA		
Arenga tremula	Dwarf Sugar Palm	5	4	3	4 at any OA		
Bismarckia nobilis	Bismarck Palm	6	5	4	≤8 FT=6	>8FT ≤ 18 FT=9	>18 FT=12
Butia odorata (formerly B.	Pindo Palm	12	10	7	≤14 FT=6		>14 FT=9
Butiagrus nabonnandii	Mule Palm	12	10	7	≤15 FT=6		>15 FT=9
Carpentaria acuminata	Carpentaria Palm	6	5	4	6 at any OA		
Caryota mitis	Clustering Fishtail	6	5	4	4 at any OA		
Chamaedorea cataractarum	Cat Palm	5	4	3	4 at any OA		
Chamaedorea erumpens	Bamboo Palm	5	4	3	4 at any OA		
Chamaedorea microspadix	Hardy Bamboo Palm	5	4	3	4 at any OA		
Chamaedorea seifrizii	Reed Palm	5	4	3	4 at any OA		
Chamaerops humilis	European Fan Palm	20	16	12	6 at any OA		
Chambeyronia macrocarpa	Red Feather Palm	6	5	4	4 at any OA		
Coccothrinax spp. (incl. C. alta, argentata, C. crinita, C. miraguama)	Silver Palm	8	6	5	≤12 FT=6		>12 FT=9
Cocos nucifera	Coconut Palm	6	5	4	≤20 FT=6		>20 FT=9
Copernicia alba	Caranday Palm	25	20	15	≤15 FT=6		>15 FT=9
Copernicia prunifera	Carnauba Palm	25	20	15	6 at any OA		
Dictyosperma album	Princess Palm	9	7	6	6 at any OA		
Dypsis cabadae	Cabada Palm	4	3	2	4 at any OA		
Dypsis decaryii	Triangle Palm	10	8	6	≤15 FT=6		>15 FT=9

INTRODUCTION TO PALM SPECIFYING

Florida Grades and Standards for Palms is constructed to measure only the health and potential for successful reestablishment of palms at the time of delivery. Design professionals seeking specific palm forms, dimensions or other physical characteristics must specify those attributes in the contract. Further, other details including those relating to installation, establishment and warranty must be specified contractually. Specifications must meet or exceed minimal grading standards.

The Terms defined in the Glossary of Palm Grading and Palm Specifying are used in the Florida Grades and Standards for palms as the prescribed language for grading and specifying palms.

You don’t need to specify what is covered in the grade

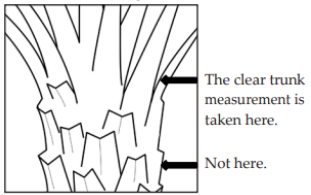
Reduces confusion for growers and installers	Everyone works from the same clear baseline
Grades already define key standards	Leaf count, trunk condition, rootball measurement, evidence of pests or disease
Enables clear communication	Once the grade has been determined, specific contractual obligations can be defined using formalized concepts (specifications)
Eliminates redundancy in your specs	Focus your energy on details outside or beyond grading standards

GLOSSARY OF PALM SPECIFYING TERMINOLOGY

Boot: The leaf base or enlarged basal portion of the petiole remaining affixed to the trunk after the leaf has died and been broken or cut off.

Booted: Used to specify palms with leaf bases still attached to the trunk.

Caliper: The diameter of a palm's trunk after final trunk treatment. The height that this diameter is measured must be specified.



Canopy spread: A measurement taken from leaf tip to leaf tip, in their natural state, at the widest point.

Character palms, Curved palms: Used to specify unusual trunk shapes.

Clean Trunk: See "Leaf base trimming (Clean cut photo)." Care must be taken to avoid leaf node damage as this can cause permanent damage to the trunk.

Clear Trunk: A measurement from the top of the root ball to the point where the lowest untrimmed leaf's petiole diverges from the trunk. The remaining leaf counts must meet the minimum requirements for the chosen grade - See leaf counts in Table 1 for FL Fancy, FL #1 and FL #2. Reducing the leaf count to achieve more clear trunk can result in a lower grade.

Clear Wood, Gray Wood: A measurement from the top of root ball to the highest point on the trunk free of persistent leaf bases. On palms with a crownshaft, the measurement is from the top of root ball to the base of the crownshaft. Palms with very persistent leaf bases may not have clear wood.

Cropped Palms: Palms with all leaves removed before transplanting. Typically performed on collected Sabal species. Previously known as Hurricane Cut.

Crownshaft: A conspicuous neck-like structure formed by tubular leaf bases on some pinnate-leaved palms.

Debooted: See "Clean trunk" definition.

Frond: A common term used to describe a palm leaf.

Gray Wood: See "Clear wood" definition.

Hurricane Cut: See "Cropped palms" definition.

Juvenile Palms: Any immature palm which has not reached the developmental stage of growth necessary for evaluation in accordance with Grades and Standards.

Leaf Base: The basal portion of a leaf that is attached to the trunk.

GLOSSARY OF PALM SPECIFYING TERMINOLOGY

Leaf Base Trimming: A process of cutting leaf bases to achieve a particular appearance, typically performed by the grower. There are several types of trimming cuts that may be specified including classic, clean, diamond and shelf.

Leaf Length: The distance along the petiole from the point where the petiole diverges from the trunk to the leaf's tip.

Main Trunk: For clustering palms and single trunk palms intentionally grown with more than one trunk the tallest trunk in the cluster is considered the main trunk.

Multi-trunk: A term used to specify multiple single trunked palms grown together.

Overall Height: The highest point in the canopy measured from the top of rootball to the natural position of the last fully emerged (all leaflets are fully expanded) leaf.

Regenerated Palms: Palms that have been collected/dug and maintained until new white or cream-colored root growth is visible around a minimum of 75% of the perimeter of the root ball. The new roots are held within a containment barrier. Roots which penetrate or escape the barrier cannot be included in this percentage. (This requirement is a standard for grading Cabbage Palms as detailed in Table 1.)

Slick Trunk: Trunk with leaf bases mechanically removed often causing damage to the pseudobark and exposing vascular tissue. This practice is not recommended.

GLOSSARY OF PALM SPECIFYING TERMINOLOGY

Sloughing: The natural degradation and dropping of leaf bases. This is not detrimental to the palm's health.

Suckers: Small shoots emerging from the base of main trunks in clustering palms.

Terminus Height: Measurement from the top of root ball to the point of emergence of the spear leaf. This is a practical measurement method for cropped and some other palms.

Tipped Leaf: A specified procedure of shortening the leaves by cutting the leaf tips. Tipped leaves are not gradable therefore this must occur after the grading process.

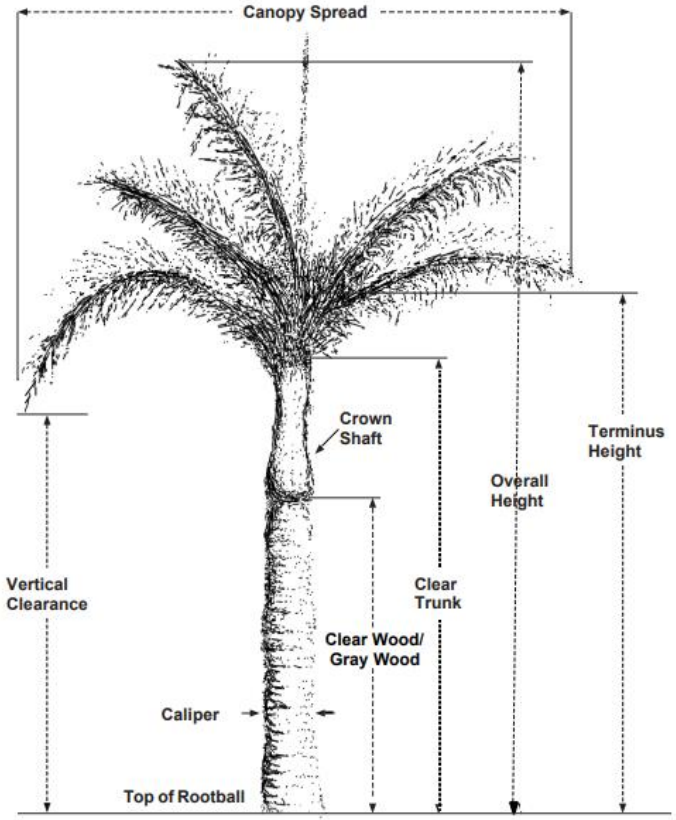
Trunk Constriction: The reduction in diameter of any portion of the trunk relative to the trunk above and/or below. This includes tapering and hourglass appearances. Constriction is considered abrupt when the trunk diameter changes more than 10% within 1 foot above and/or below.

Vertical Clearance: A measurement from the top of root ball to the lowest leaf. Pruning may be required to achieve clearance for pedestrians, vehicles, signs, etc. If minimum leaf counts are maintained, grading is not affected (see diagram on page 56).

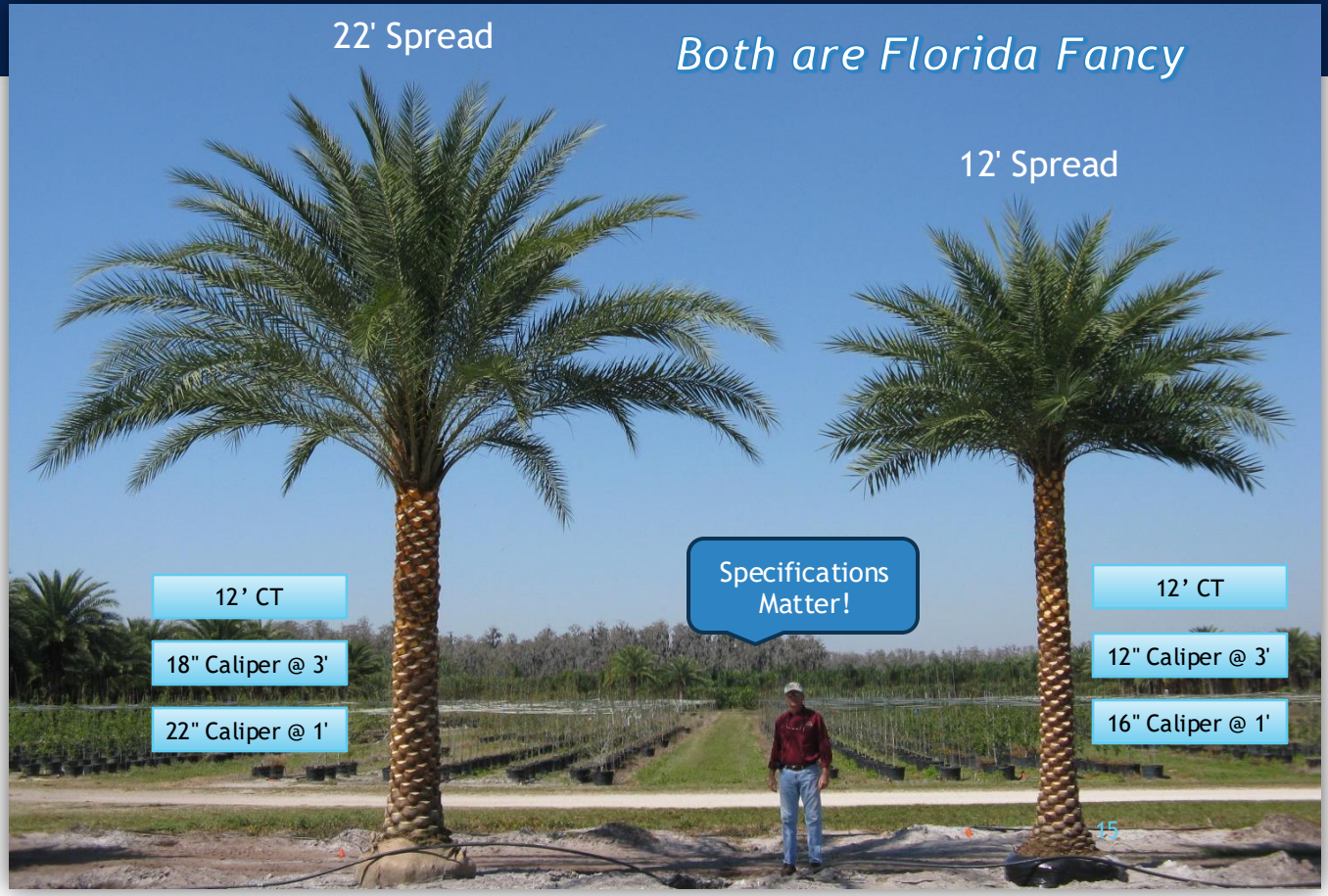
Trunk Constriction

ILLUSTRATION OF PALM SPECIFICATION TERMINOLOGY

Specifications regarding form and dimensional characteristics (other than grading factors) are the responsibility of design professionals. The following illustrates terms that provide a common language for describing parts and measurements of palms.



If the grades are the same, how do you get what you want?



Sometimes it's tempting to simply state…

'Typical of Species'

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Not All Palms Grow Straight

This One Still Makes the Grade!

Potential Specifications

CHECKLIST FOR POTENTIAL SPECIFICATIONS

Trunk Measurements

- Caliper (at specified heights)
- Clear Trunk
- Clear Wood
- Terminus Height

Trunk Characteristics

- Curved, straight or multi trunk
- Type of Leaf Base Trimming/Treatment
- Pseudobark Appearance
- No Trunk Constriction

Leaves

- Cropped Palm
- Canopy Spread
- Leaf Tipping (To Be Done After Grading)
- Leaf Count for Species not listed in Table 1

Other

- Regeneration
- Overall Height
- Root ball Measurements of Species not Listed in Table 1
- Certifications
- Vertical Clearance
- Timeframe or Other Performance requirements
- Pre-shipment Protocols

Checklist for Potential Specifications

Grade:	Species:	Quantity:

	Palm Measurements	*Specification*	*Notes*
	Caliper (@ height) Will vary based on trunk treatment		
	Clear Trunk		
	Clear Wood		
	Overall Height		
	Terminus Height		
	Root ball Measurement for Species not listed in Table 1 or in excess of standard		
	Vertical Clearance		

	Trunk Characteristics	*Specification*	*Notes*
	Curved, straight or multi trunk		
	Type of Leaf Base Trimming/Treatment		
	Pseudobark Appearance		
	No Trunk Constriction		

	Leaves	*Specification*	*Notes*
	Cropped Palm		
	Canopy Spread		
	Leaf Tipping (To Be Done After Grading)		
	Leaf Count/rootball measurement for Species not listed in Table 1)		

	Other	*Specification*	*Notes*
	Regeneration (Typically reserved for Bismarck & Sabal)		
	Certifications		
	Timeframe or Other Performance Requirements		
	Pre-shipment Protocols		
	Hydration		
	Vertical Fissures		
	Nut		

Template for Assigning a Grade and Specifications

1) **Species, cultivar or hybrid** _____

2) **Grade** _____

3) **Specifications:**

- **A. O.A. Height** _____
- **B. Clear Trunk** _____
- **C. Caliper** _____
- **D. Trunk Treatment** _____
- **E. Canopy Spread** _____
- **F. Abrupt Constriction** _____
- **G. Clear Wood** _____
- **H. Booted** _____
- **I. Character** _____
- **J. Cropped** _____
- **K. Regenerated** _____
- **L. Terminus Height** _____
- **M. Vertical Clearance** _____

Miscellaneous _____
Time Lines for Regrade _____
Other Purposes _____

PALM SPECIFICATION EXAMPLES

Roystonea regia	Florida royal palm	FL No. 1 - 18 FT GW, 10 LEAF COUNT, 16 IN CAL MEASURED AT 3 FT HT, 5 FT X 5 FT ROOT BALL, 8 WEEKS ROOT PRUNED
Sabal palmetto	sabal Palm	FL No. 1 - FG 12-18 FT HT,'BANANA' OR 'S' CURVE, LEAVE BOOTS ON TOP HALF OF TRUNK (SEE DETAIL)
Thrinax Radiata	Florida thatch palm	FL No. 1 - 5 FT HT, 8 GOOD OR EXCELLENT LEAVES
Veitchia montgomeryana	montogomery palm	FL FANCY - 24 FT HT, TRIPLE TRUNK, MATCHED, MINIMUM 8 EXCELLENT LEAVES
Chamaerops humilis	European fan palm	FL No. 1 - 10 FT OA, 100 GALLON, MINIMUM 4 STEMS, MINIMUM 25 FT TOTAL STEM FOOTAGE
Ptychosperma elegans	solitaire palm	FL No. 1 - 28 FT HT, DOUBLE TRUNK, NO VERTICAL FISSURES
Phoenix Sylvestris	wild date palm	FL FANCY - 10 FT CT, 16 IN CAL MEASURED AT 3FT HT AFTER TRIM, CLEANED FREE OF MOLD AND FUNGUS, DIAMOND BOOT CUT AT PETIOLE FLARE, NO SLOUGHING OR DEGRADATION OF LEAF BASES OR PSEUDOBARK, STRAIGHT TRUNK

Quality Assurance for Landscape Architects

Environmental Sensitivity: Florida's ecosystems—such as wetlands, coastal areas, and native habitats—are highly sensitive. Ensuring quality in planning and implementation helps prevent ecological damage and promotes sustainability.

Regulatory Compliance: Florida has strict environmental and building regulations. Quality assurance ensures that landscape designs meet local, state, and federal codes, avoiding legal issues and costly project delays.

Hurricane and Climate Resilience: Florida is prone to hurricanes, flooding, and sea-level rise. High-quality design and construction practices ensure landscapes are resilient, functional, and safe under extreme weather conditions.

Public Safety and Accessibility: Quality assurance ensures landscapes are built to be safe for all users, including compliance with ADA standards, proper drainage, and stable structures.

Client Satisfaction and Reputation: Consistently high-quality work leads to satisfied clients, repeat business, and a strong professional reputation.

Resource Efficiency: Careful quality control reduces waste of materials, time, and labor, which is especially important in Florida's growing and competitive development market.

Aesthetic and Functional Integrity: Poor execution can lead to landscape features that deteriorate quickly or don't perform as intended (e.g., failed irrigation, erosion, or plant death), impacting long-term value and usability.

*Source: ChatGPT, OpenAI, June 2025


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QUESTIONS?

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ADDITIONAL INFORMATION

For additional information about palm varieties, production, morphology, anatomy, nutrition, fertilization, pests and diseases, see

https://edis.ifas.ufl.edu/topic_palm_care

PowerPoint available at:
https://www.fishbranchtreefarm.com

E-mail questions to:
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