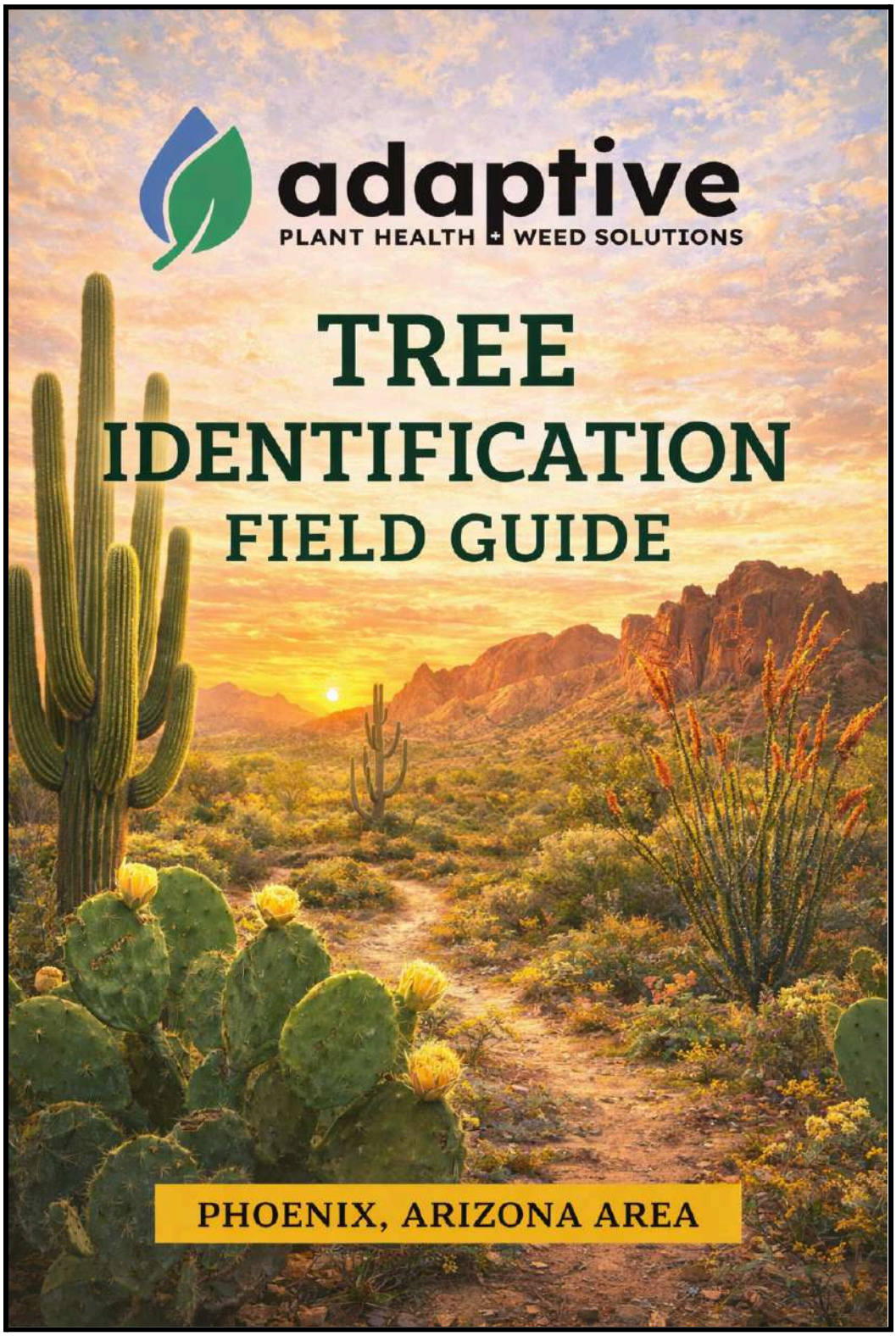
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PLANT HEALTH + WEED SOLUTIONS
TREE
IDENTIFICATION
FIELD GUIDE
PHOENIX, ARIZONA AREA

TREE IDENTIFICATION GUIDE

How to Use This Tree Identification & Care Guide

Purpose

This guide aims to enhance accurate tree identification, facilitate better diagnostics, and inform smarter care decisions in desert landscapes.

In arid, high-heat environments, misidentifying a tree often leads to improper watering, nutrient issues, unnecessary treatments, and avoidable decline. Many desert species appear similar but exhibit very different behaviors. This guide helps prevent those mistakes.

What This Guide Is

- A visual, field-use reference
- Built for arborists and plant health professionals
- Focused on identification, fundamentals, and common issues
- Organized by plant families to build pattern recognition
- Designed to support diagnostic thinking, not memorization

What This Guide Is Not

- A marketing or sales document
- A one-size-fits-all prescription
- A replacement for professional judgment

How to Use It in the Field

Each species includes:

- Three photos: full tree, trunk/bark, leaf or flower
- Key identification traits
- Sun and placement preferences
- General water needs
- Common nutrient deficiencies
- Likely pests and diseases
- Frequent stress or failure causes

Field process:

1. Identify the species
2. Confirm with leaf, bark, and structure
3. Match care to species biology
4. Address environmental stress before pests
5. Correct conditions before recommending treatments

Why Identification Comes First

In desert landscapes:

- Most failures are irrigation-related
- Many nutrient issues are species and soil-pH-driven
- Pests and diseases are often secondary symptoms

You cannot accurately diagnose water, nutrition, pests, or disease without first knowing what tree you're standing under.

Training Philosophy

Healthy trees come from understanding biology, not just applying products.

TREE IDENTIFICATION GUIDE

FOOTHILLS PALO VERDE *(Parkinsonia microphylla)*



🔍 IDENTIFICATION

- ★ Smallest leaves of all Palo Verde species
- ★ Distinct zig-zag branching
- ★ Gray-green to olive photosynthetic bark
- ★ Open, airy, irregular desert form

☀️ SITE & SUN

- ★ Full sun only
- ★ Extremely heat-tolerant
- ★ Best in natural desert and open sites

💧 WATERING

- ★ **Summer:** Deep soak every **30–45 days**
- ★ **Winter:** Minimal to none
- ★ *Overwatering is the primary cause of failure*

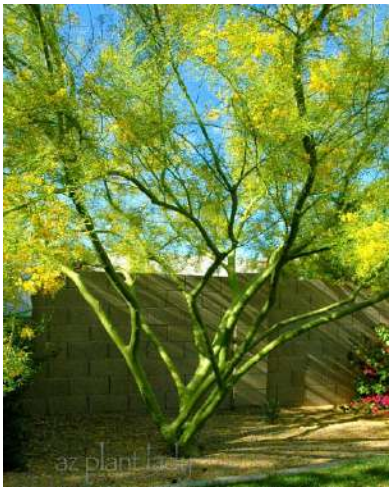
🐛🦠 COMMON ISSUES

- ★ Palo Verde beetle (seasonal)
- ★ Secondary borers under stress
- ★ Root rot in irrigated or compacted soils

⚠️ ARBORIST FIELD NOTES

- ★ Native Palo Verde ≠ Desert Museum Palo Verde
- ★ Green bark photosynthesizes — avoid overshading
- ★ Decline almost always traces to irrigation practices

BLUE PALO VERDE *(Parkinsonia florida)*



🔍 IDENTIFICATION

- ★ Spineless (key ID trait)
- ★ Dense, uniform canopy
- ★ Smooth, bright green bark
- ★ Faster growth than native Palo Verdes

☀️ SITE & SUN

- ★ Full sun
- ★ Highly heat-tolerant
- ★ Streets, parking lots, urban landscapes

💧 WATERING

- ★ **Summer:** Deep soak every 14–21 days
- ★ **Winter:** Every 30 days
- ★ *More tolerant of irrigation than native Palo Verdes*

🐛🦠 COMMON ISSUES

- ★ Palo Verde beetle (typically less damage)
- ★ Root rot in consistently wet soil

⚠️ ARBORIST FIELD NOTES

- ★ Hybrid ≠ native Palo Verde
- ★ Most urban-tolerant Palo Verde selection
- ★ Stl fails under chronic over-irrigation

DESERT MUSEUM PALO VERDE *(Parkinsonia 'Desert Museum')*



🔍 IDENTIFICATION

- ★ Smallest leaves of all Palo Verde species, fast grower
- ★ Distinct zig-zag branching
- ★ Gray-green to olive photosynthetic bark, thornless
- ★ Open, airy, irregular desert form

☀️ SITE & SUN

- ★ Full sun only
- ★ Extremely heat-tolerant
- ★ Best in natural desert and open sites

💧 WATERING

- ★ **Summer:** Deep soak every **30–45 days**
- ★ **Winter:** Minimal to none
- ★ *Overwatering is the primary cause of failure*

🐛🦠 COMMON ISSUES

- ★ Palo Verde beetle (seasonal)
- ★ Secondary borers under stress
- ★ Root rot in irrigated or compacted soils

⚠️ ARBORIST FIELD NOTES

- ★ Engineered hybrid- more forgiving than native Palo Verdes
- ★ Green bark photosynthesizes - avoid overshading
- ★ Decline almost always traces to irrigation practices

PALO BREA / DESERT FERN (Parkinsonia praecox)



🔍 IDENTIFICATION

- ★ Medium desert tree with **thick trunk** and green photosynthetic bark
- ★ Smaller leaves than Blue Palo Verde; airy canopy
- ★ Yellow spring flowers similar to Palo Verde

☀️ SITE & SUN

- ★ Full sun only
- ★ Extremely heat-tolerant
- ★ Best in open desert, medians, and low-water landscapes

💧 WATERING

- ★ **Summer:** Deep soak every 30–45 days
- ★ **Winter:** Minimal to none
- ★ *Overwatering is the primary cause of decline*

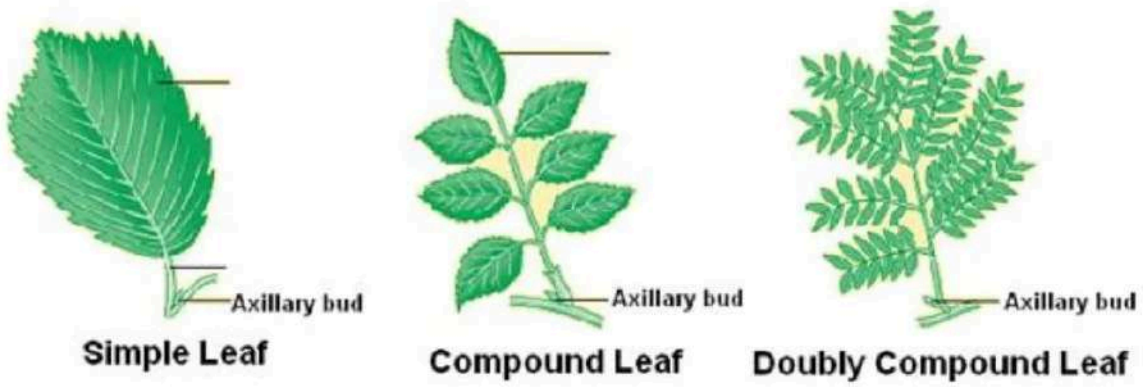
🐛🦠 COMMON ISSUES

- ★ Borers under irrigation stress
- ★ Root rot in turf or compacted soils
- ★ Limb dieback from excess water

⚠️ ARBORIST FIELD NOTES

- ★ Often mistaken for Palo Verde → overwatered
- ★ Thicker trunk ≠ , higher water needs
- ★ Performs best when treated as a true desert native

PALO VERDE HYBRIDS — CLARIFICATION PAGE



🔍 WHY THIS PAGE EXISTS

- ★ Phoenix landscapes contain multiple Palo Verde hybrids, many unnamed
- ★ Misidentification leads directly to incorrect irrigation
- ★ Native ≠ Hybrid ≠ Engineered cultivar

🌳 COMMON PALO VERDE TYPES

- ★ Foothills Palo Verde – native, very low water tolerance
- ★ Blue Palo Verde – more irrigation-tolerant, urban adaptable
- ★ Desert Museum – engineered hybrid, thornless, most forgiving
- ★ Unlabeled hybrids – variable behavior, often mismanaged

💧 WATERING RULE THAT MATTERS

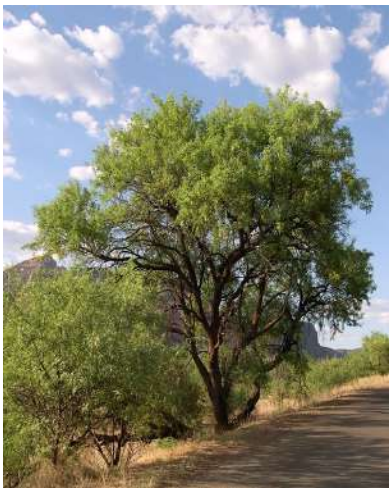
- ★ **When in doubt, water less**, not more
- ★ Hybrid Palo Verdes tolerate *some* irrigation — natives do not
- ★ Chronic irrigation is the #1 cause of decline across all types

⚠️ ARBORIST FIELD NOTES

- ★ Green bark = photosynthesis → avoid overshading
- ★ Most “Palo Verde problems” are irrigation problems
- ★ If the tree is declining, check water first, not pests

VELVET MESQUITE

(Prosopis velutina)



🔍 IDENTIFICATION

- ★ Broad, spreading canopy
- ★ Bipinnate (feather-like) leaves
- ★ Dark, rough, mature bark
- ★ Often multi-trunked

☀️ SITE & SUN

- ★ Full sun
- ★ Extremely heat and drought-tolerant
- ★ Open desert sites, washes, and large planting areas

💧 WATERING

- ★ **Summer:** Deep soak every 30–45 days
- ★ **Winter:** Minimal to none
- ★ *Excess irrigation causes structural and root issues*

🐛🦠 COMMON ISSUES

- ★ Mesquite borers (stress-related)
- ★ Root rot in irrigated turf
- ★ Weak branching from overwatering

⚠️ ARBORIST FIELD NOTES

- ★ Native desert Mesquite ≠ Chilean Mesquite
- ★ Overwatering leads to limb failure
- ★ Excellent shade tree when grown dry

HONEY MESQUITE

(Prosopis glandulosa)



🔍 IDENTIFICATION

- ★ Broad, spreading canopy
- ★ Fine, bipinnate (feather-like) leaves
- ★ Dark, rough, mature bark
- ★ Often multi-trunked

☀️ SITE & SUN

- ★ Full sun
- ★ Extremely heat-tolerant
- ★ Best in large, open desert or low-water landscape

💧 WATERING

- ★ **Summer**: Deep soak every 30–45 days
- ★ **Winter:** Minimal to none
- ★ *Frequent irrigation increases failure and breakage risk*

🐛🦠 COMMON ISSUES

- ★ Mesquite borers (stress-related)
- ★ Root rot in turf or over-irrigated sites
- ★ Weak branch structure from excess water

⚠️ ARBORIST FIELD NOTES

- ★ Native Honey Mesquite ≠ Chilean Mesquite
- ★ Overwatering causes rapid, weak growth
- ★ Performs best under desert-style irrigation

CHILEAN MESQUITE

(Prosopis chilensis)

🔍 IDENTIFICATION

- ★ Dense, rounded canopy
- ★ Fine, bipinnate (feather-like) leaves
- ★ Smoother bark than native Mesquites
- ★ Fast growth under irrigation

☀️ SITE & SUN

- ★ Full sun
- ★ Very heat-tolerant
- ★ Urban landscapes, streets, and large planters

💧 WATERING

- ★ **Summer:** Deep soak every **14–21 days**
- ★ **Winter:** Every **30 days**
- ★ *More water-dependent than native Mesquites*

🐛🦠 COMMON ISSUES

- ★ Borers under stress
- ★ Root rot in poorly drained soils
- ★ Structural failure from rapid, irrigated growth

⚠️ ARBORIST FIELD NOTES

- ★ Non-native Mesquite species
- ★ Excess irrigation leads to weak wood
- ★ Requires proactive structural pruning

SCREWBEAN MESQUITE

(Prosopis pubescens)

🔍 IDENTIFICATION

- ★ Smaller Mesquite with open canopy
- ★ Fine, bipinnate (feather-like) leaves
- ★ Gray-brown bark, modest trunk size
- ★ Unique spiral seed pods

☀️ SITE & SUN

- ★ Full sun
- ★ Heat tolerant
- ★ Best in washes, riparian corridors, and open desert sites

💧 WATERING

- ★ **Summer:** Deep soak every **30–45 days**
- ★ **Winter:** Minimal to none
- ★ *Prefers natural moisture patterns; avoid frequent irrigation*

🐛🦠 COMMON ISSUES

- ★ Borers when stressed
- ★ Root issues in compacted or irrigated turf
- ★ Decline from altered hydrology

⚠️ ARBORIST FIELD NOTES

- ★ Most easily identified by spiral pods
- ★ Poor performer in urban turf settings
- ★ Best preserved in natural desert hydrolo

DESERT WILLOW

(Chilopsis linearis)

🔍 IDENTIFICATION

- ★ Small to medium desert tree
- ★ Long, narrow leaves (willow-like)
- ★ Showy trumpet-shaped flowers
- ★ Often multi-trunked

☀️ SITE & SUN

- ★ Full sun
- ★ Heat tolerant
- ★ Best in open desert or low-water landscapes

💧 WATERING

- ★ ***Summer:*** *Deep soak every* ***21–30 days***
- ★ ***Winter:*** *Every* ***30–45 days***
- ★ *Excess water reduces flowering and structure*

🐛🦠 COMMON ISSUES

- ★ Aphids (seasonal)
- ★ Caterpillars
- ★ Root rot in over-irrigated sites

⚠️ ARBORIST FIELD NOTE

- ★ Flowering improves under reduced irrigation
- ★ Avoid turf irrigation zones
- ★ Excellent ornamental for desert landscapes

CHITALPA

(× Chitalpa tashkentensis)



🔍 IDENTIFICATION

- ★ Small to medium deciduous tree with open canopy
- ★ Long, narrow leaves similar to Desert Willow
- ★ Showy pink to lavender trumpet-shaped flowers

☀️ SITE & SUN

- ★ Full sun only
- ★ High heat tolerance
- ★ Best in open landscapes and medians

💧 WATERING

- ★ **Summer:** Deep soak every **14–21 days**
- ★ **Winter:** Every **30–45 days**
- ★ *Excess irrigation increases weak growth and dieback*

🐛🦠 COMMON ISSUES

- ★ Powdery mildew during humid monsoon periods
- ★ Aphids (seasonal, cosmetic)
- ★ Branch dieback from overwatering or poor drainage

⚠️ ARBORIST FIELD NOTES

- ★ Hybrid of Desert Willow × Catalpa — **not a native**
- ★ Often mistaken for Desert Willow → overwatered
- ★ Performs best with **reduced irrigation once established**

CATCLAW ACACIA

(Senegalia greggii)



🔍 IDENTIFICATION

- ★ Large shrub or small tree
- ★ Fine bipinnate leaves
- ★ Distinct curved hook thorns
- ★ Irregular, native desert form

☀️ SITE & SUN

- ★ Full sun
- ★ Extremely heat-tolerant
- ★ Natural desert, washes, open native areas

💧 WATERING

- ★ ***Summer:*** *Deep soak every* ***30–45 days***
- ★ ***Winter:*** *Minimal to none*
- ★ *Very sensitive to frequent irrigation*

🐛🦠 COMMON ISSUES

- ★ Borers under stress
- ★ Root rot in irrigated turf
- ★ Structural dieback from excess water

⚠️ ARBORIST FIELD NOTES

- ★ Aggressive thorns limit use near walkways
- ★ Performs best under native desert hydrology
- ★ Overwatering is the primary cause of failure

SWEET ACACIA

(Vachellia farnesiana)

🔍 IDENTIFICATION

- ★ Small tree or large shrub
- ★ Fine bipinnate leaves
- ★ Bright yellow puffball flowers
- ★ Often multi-stemmed

☀️ SITE & SUN

- ★ Full sun
- ★ Heat tolerant
- ★ Desert landscapes, streetscapes, and open planting areas

💧 WATERING

- ★ **Summer:** Deep soak every 21–30 days
- ★ **Winter:** Every 30–45 days
- ★ *Excess irrigation reduces flowering and vigor*

🐛🦠 COMMON ISSUES

- ★ Aphids (seasonal)
- ★ Caterpillars
- ★ Root rot in over-irrigated soils

⚠️ ARBORIST FIELD NOTES

- ★ Highly fragrant flowers are valued ornamentally
- ★ Performs poorly in turf irrigation zones
- ★ Light pruning preserves natural form

IRONWOOD

(Olneya tesota)



🔍 IDENTIFICATION

- ★ Medium to large native desert tree
- ★ Dense, rounded canopy
- ★ Rough, heavy bark
- ★ Purple spring flowers

☀️ SITE & SUN

- ★ Full sun
- ★ Extremely heat-tolerant
- ★ Native desert and open landscape settings

💧 WATERING

- ★ **Summer:** Deep soak every 30–45 days
- ★ **Winter:** Minimal to none
- ★ *Very sensitive to overwatering*

🐛🦠 COMMON ISSUES

- ★ Root rot in irrigated turf
- ★ Branch dieback from excess water
- ★ Slow recovery from stress

⚠️ ARBORIST FIELD NOTES

- ★ One of the slowest-growing desert trees
- ★ Exceptionally dense, heavy wood
- ★ Performs best under natural desert hydrology

ARIZONA ASH

(Fraxinus velutina)

🔍 IDENTIFICATION

- ★ Medium to large deciduous tree
- ★ Compound leaves with multiple leaflets
- ★ Broad, rounded canopy
- ★ Winter leaf drop

☀️ SITE & SUN

- ★ Full sun
- ★ Moderate heat tolerance
- ★ Performs best in larger landscapes

💧 WATERING

- ★ **Summer:** Deep soak every 14–21 days
- ★ **Winter:** Every 30–45 days
- ★ *Requires more water than desert natives*

🐛🦠 COMMON ISSUES

- ★ Borers under stress
- ★ Chlorosis in poor soils
- ★ Decline from drought stress

⚠️ ARBORIST FIELD NOTES

- ★ High water-use species for Arizona
- ★ Declines rapidly when irrigation is reduced
- ★ Not recommended for new low-water designs

SHAMEL ASH

(Fraxinus uhdei)



🔍 IDENTIFICATION

- ★ Large ash with dense canopy; holds leaves longer than Arizona Ash
- ★ Pinnate compound leaves with multiple leaflets
- ★ Gray bark that becomes furrowed with age

☀️ SITE & SUN

- ★ Full sun to light shade
- ★ Needs space (big mature canopy)
- ★ Performs best with consistent deep soil volume

💧 WATERING

- ★ **Summer:** Deep soak every **10–14 days**
- ★ **Winter:** Every **21–30 days**
- ★ *Declines fast with irrigation reductions once established*

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH / compacted soils
- ★ Borers under drought or irrigation stress
- ★ General “ash decline” symptoms often start with irrigation issues

⚠️ ARBORIST FIELD NOTES

- ★ Very common low-desert ash (different behavior than Arizona Ash)
- ★ Diagnose **water + root zone** before chasing pests
- ★ Structural pruning early prevents heavy limb failures later

NETLEAF HACKBERRY

(Celtis reticulata)

🔍 IDENTIFICATION

- ★ Medium native desert tree
- ★ Thick, rough leaves with netted veins
- ★ Warty, corky bark texture
- ★ Small berry-like fruit

☀️ SITE & SUN

- ★ Full sun
- ★ Very heat-tolerant
- ★ Desert, foothills, and open native sites

💧 WATERING

- ★ **Summer:** Deep soak every 30–45 days
- ★ **Winter:** Minimal to none
- ★ *Very drought-tolerant once established*

🐛🦠 COMMON ISSUES

- ★ Leaf gall insects (cosmetic)
- ★ Aphids (seasonal)
- ★ Root rot in irrigated turf

⚠️ ARBORIST FIELD NOTES

- ★ One of the toughest native desert trees
- ★ Performs poorly with frequent irrigation
- ★ Excellent low-water replacement for Ash

DESERT HACKBERRY

(Celtis pallida)



🔍 IDENTIFICATION

- ★ Large shrub or small tree
- ★ Small, rough-textured leaves
- ★ Less corky bark than Netleaf Hackberry
- ★ Brightly colored berries

☀️ SITE & SUN

- ★ Full sun
- ★ Extremely heat-tolerant
- ★ Native desert and low-water landscapes

💧 WATERING

- ★ **Summer:** Deep soak every 30–45 days
- ★ **Winter:** Minimal to none
- ★ *Highly drought-tolerant once established*

🐛🦠 COMMON ISSUES

- ★ Aphids (seasonal)
- ★ Leaf gall insects (cosmetic)
- ★ Root issues when planted in turf

⚠️ ARBORIST FIELD NOTES

- ★ Excellent wildlife tree for native landscapes
- ★ Performs poorly with frequent irrigation
- ★ Good shrub-tree transition species

PALO BLANCO

(Mariosousa willardiana)

🔍 IDENTIFICATION

- ★ Medium native desert tree
- ★ Smooth white to light gray bark
- ★ Fine bipinnate leaves
- ★ Upright to spreading canopy

☀️ SITE & SUN

- ★ Full sun
- ★ High heat tolerance
- ★ Open desert and low-water landscapes

💧 WATERING

- ★ ***Summer:*** *Deep soak every* ***30–45 days***
- ★ ***Winter:*** *Minimal to none*
- ★ *Sensitive to frequent irrigation once established*

🐛🦠 COMMON ISSUES

- ★ Borers under stress
- ★ Root rot in irrigated turf
- ★ Leaf drop from excess water

⚠️ ARBORIST FIELD NOTES

- ★ White bark makes this species easy to ID
- ★ Performs best under desert-style irrigation
- ★ Avoid turf and high-frequency watering zones

ARIZONA ROSEWOOD

(Vauquelinia californica)

🔍 IDENTIFICATION

- ★ Evergreen small tree
- ★ Dense, rounded canopy
- ★ Leathery dark green leaves
- ★ White spring flowers

☀️ SITE & SUN

- ★ Full sun to light shade
- ★ Very heat-tolerant
- ★ Foothills, slopes, urban desert landscapes

💧 WATERING

- ★ ***Summer:*** *Deep soak every* ***21–30 days***
- ★ ***Winter:*** *Every* ***30–45 days***
- ★ *More water than desert deciduous trees, but not turf-level irrigation*

🐛🦠 COMMON ISSUES

- ★ Chlorosis in poor soils
- ★ Root rot in over-irrigated sites
- ★ Occasional aphids

⚠️ ARBORIST FIELD NOTES

- ★ One of the best evergreen natives for Phoenix
- ★ Avoid frequent irrigation once established
- ★ Excellent alternative to high-water evergreen trees

CHINESE ELM

(Ulmus parvifolia)

🔍 IDENTIFICATION

- ★ Medium to large deciduous tree
- ★ Distinct mottled, exfoliating bark (tan, gray, orange patches)
- ★ Small, leathery, serrated leaves
- ★ Semi-evergreen to deciduous in Phoenix winters

☀️ SITE & SUN

- ★ Full sun to light shade
- ★ High heat tolerance once established
- ★ Common in streetscapes, parks, HOAs, and commercial sites

💧 WATERING

- ★ Summer: Deep soak every 14–21 days
- ★ Winter: Every 30–45 days
- ★ *Tolerates moderate irrigation but declines with shallow, frequent watering*

🐛🦠 COMMON ISSUES

- ★ Aphids → honeydew → sooty mold
- ★ Chlorosis in high-pH or compacted soils
- ★ Root issues in turf or constantly wet sites

⚠️ ARBORIST FIELD NOTES

- ★ One of the **best-performing non-native shade trees**
- ★ Requires **structural pruning early** to prevent co-dominant leaders
- ★ Performs best when watered **deeply and infrequently**
- ★ Often misdiagnosed as pests when the real issue is irrigation depth

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TREE IDENTIFICATION GUIDE

FRUITLESS OLIVE SWAN HILL *(Olea europaea 'Fruitless')*



🔍 IDENTIFICATION

- ★ Medium evergreen tree with dense, rounded canopy
- ★ Narrow, leathery gray-green leaves with silver undersides
- ★ Gnarled, textured trunk with age

☀️ SITE & SUN

- ★ Full sun only
- ★ Extremely heat-tolerant
- ★ Common in HOAs, streetscapes, and parking lot islands

💧 WATERING

- ★ **Summer:** Deep soak every **21–30 days**
- ★ **Winter:** Every **45–60 days**
- ★ *Overwatering is the primary cause of failure*

🐛🦠 COMMON ISSUES

- ★ Olive leaf spot in over-irrigated sites
- ★ Scale insects under stress
- ★ Chlorosis in high-pH or compacted soils

⚠️ ARBORIST FIELD NOTES

- ★ "Fruitless" ≠ zero flowers or debris
- ★ Performs best **outside turf irrigation zones**
- ★ Excellent low-water evergreen when irrigated correctly

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TREE IDENTIFICATION GUIDE

LIVE OAK

(Quercus virginiana)



🔍 IDENTIFICATION

- ★ Large evergreen oak with dense, spreading canopy
- ★ Thick, leathery dark-green leaves (lighter underside)
- ★ Dark, furrowed bark with massive limb structure

☀️ SITE & SUN

- ★ Full sun preferred
- ★ High heat tolerance once established
- ★ Requires space — not for tight courtyards

💧 WATERING

- ★ ***Summer:*** *Deep soak every* ***14–21 days***
- ★ ***Winter:*** *Every* ***30–45 days***
- ★ *Shallow irrigation leads to surface roots and decline*

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH soils
- ★ Root rot in poorly drained or over-irrigated sites
- ★ Aphids → honeydew → sooty mold (secondary)

⚠️ ARBORIST FIELD NOTES

- ★ One of the **best long-term shade trees** in Phoenix
- ★ Requires early structural pruning — weight adds up fast
- ★ Performs best with **deep, infrequent irrigation + soil correction**

TEXAS EBONY

(Ebenopsis ebano)



🔍 IDENTIFICATION

- ★ Medium evergreen tree with dense, rounded canopy
- ★ Small, glossy, bipinnate leaves (dark green)
- ★ Dark gray to black, rough bark with age

☀️ SITE & SUN

- ★ Full sun preferred
- ★ Excellent heat tolerance
- ★ Best in open landscapes and parking lot islands

💧 WATERING

- ★ **Summer:** Deep soak every 21–30 days
- ★ **Winter:** Every 45–60 days
- ★ *Overwatering causes rapid decline and root issues*

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH or compacted soils
- ★ Scale insects, when stressed
- ★ Root rot in turf or frequently irrigated sites

⚠️ ARBORIST FIELD NOTES

- ★ One of the **best evergreen shade trees** for Phoenix
- ★ Slow to establish — patience pays off
- ★ Performs best with **deep, infrequent irrigation** and good drainage

TIPU TREE

(Tipuana tipu)



🔍 IDENTIFICATION

- ★ Large deciduous tree with a broad, spreading canopy
- ★ Compound leaves with many oval leaflets
- ★ Yellow-orange pea-like flowers in late spring

☀️ SITE & SUN

- ★ Full sun only
- ★ Very heat-tolerant
- ★ Requires large planting areas away from structures

💧 WATERING

- ★ ***Summer:*** *Deep soak every* ***10–14 days***
- ★ ***Winter:*** *Every* ***30 days***
- ★ *Excess irrigation produces weak, failure-prone growth*

🐛🦠 COMMON ISSUES

- ★ Surface roots causing hardscape damage
- ★ Structural limb failure from rapid growth
- ★ Aphids → heavy honeydew and sooty mold

⚠️ ARBORIST FIELD NOTES

- ★ High-risk tree when overwatered or poorly pruned
- ★ Requires **aggressive early structural pruning**
- ★ Often removed due to size, root damage, and failure risk

AFRICAN SUMC *(Searsia lancea)*



🔍 IDENTIFICATION

- ★ Medium evergreen tree with dense, rounded canopy
- ★ Long, narrow, drooping dark-green leaves
- ★ Smooth gray bark; often multi-trunked

☀️ SITE & SUN

- ★ Full sun to light shade
- ★ Very heat-tolerant
- ★ Common in HOAs, screens, and parking lot islands

💧 WATERING

- ★ **Summer:** Deep soak every 14–21 days
- ★ **Winter:** Every 30–45 days
- ★ *Overwatering leads to weak structure and root problems*

🐛🦠 COMMON ISSUES

- ★ Aphids → honeydew → sooty mold
- ★ Chlorosis in high-pH soils
- ★ Root rot in turf or poorly drained sites

⚠️ ARBORIST FIELD NOTES

- ★ Extremely common but **often overused** in Phoenix
- ★ Requires **regular structural pruning** to prevent failure
- ★ Performs best with **reduced irrigation once established**

BOTTLE TREE (KURRAJONG) *(Brachychiton populneus)*



🔍 IDENTIFICATION

- ★ Medium evergreen to semi-evergreen tree
- ★ Distinct swollen trunk (“bottle” base)
- ★ Glossy, variable-shaped dark green leaves

☀️ SITE & SUN

- ★ Full sun preferred
- ★ Excellent heat tolerance
- ★ Best in open landscapes and parking lot islands

💧 WATERING

- ★ **Summer:** Deep soak every **21–30 days**
- ★ **Winter:** Every **45–60 days**
- ★ *Overwatering reduces trunk form and causes root issues*

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH soils
- ★ Root rot in turf or frequently irrigated sites
- ★ Leaf drop from excess water or stress

⚠️ ARBORIST FIELD NOTES

- ★ Trunk stores water — **does not need frequent irrigation**
- ★ Poor performer in turf irrigation zones
- ★ Excellent low-water, low-litter choice when spaced correctly

CHINESE PISTACHE

(Pistacia chinensis)

🔍 IDENTIFICATION

- ★ Medium deciduous tree with a rounded to oval canopy
- ★ Pinnate leaves with glossy leaflets
- ★ Notable red–orange fall color (even in Phoenix)

☀️ SITE & SUN

- ★ Full sun only
- ★ High heat tolerance once established
- ★ Common in streetscapes, parks, and HOAs

💧 WATERING

- ★ **Summer:** Deep soak every 14–21 days
- ★ **Winter:** Every 30–45 days
- ★ Declines with shallow, frequent irrigation

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH soils
- ★ Root rot in poorly drained or turf settings
- ★ Leaf scorch from drought stress

⚠️ ARBORIST FIELD NOTES

- ★ One of the **best fall-color trees** for Phoenix
- ★ Requires early structural pruning to prevent co-dominant leaders
- ★ Performs best with **deep watering and soil correction**

WILLOW ACACIA

(Acacia salicina)

🔍 IDENTIFICATION

- ★ Medium evergreen tree with upright, airy canopy
- ★ Long, narrow willow-like leaves (phyllodes, not true leaves)
- ★ Smooth gray bark; fine texture overall

☀️ SITE & SUN

- ★ Full sun preferred
- ★ Excellent heat tolerance
- ★ Common in streetscapes, medians, and parking lot islands

💧 WATERING

- **Summer:** Deep soak every 21–30 days
- **Winter:** Every 45–60 days
- *Overwatering causes weak growth and root issues*

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH soils
- ★ Borers under chronic stress
- ★ Root rot in turf or poorly drained sites

⚠️ ARBORIST FIELD NOTES

- ★ One of the **best low-litter evergreen trees** for Phoenix
- ★ Performs poorly in turf irrigation zones
- ★ Responds well to **deep, infrequent watering** and minimal pruning

SHOESTRING ACACIA

(Acacia stenophylla)



🔍 IDENTIFICATION

- ★ Medium evergreen tree with a narrow, upright canopy
- ★ Extremely long, thin, strap-like leaves (phyllodes)
- ★ Smooth gray to light brown bark

☀️ SITE & SUN

- ★ Full sun only
- ★ Excellent heat tolerance
- ★ Ideal for tight medians, walkways, and narrow islands

💧 WATERING

- **Summer:** Deep soak every **21–30 days**
- **Winter:** Every **45–60 days**
- *Overwatering causes weak growth and instability*

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH soils
- ★ Borers when chronically stressed
- ★ Root rot in turf or frequently irrigated sites

⚠️ ARBORIST FIELD NOTES

- ★ One of the **best narrow evergreen trees** for Phoenix
- ★ Performs poorly in turf irrigation zones
- ★ Minimal pruning is needed when irrigated correctly

MULGA ACACIA

(Acacia aneura)

🔍 IDENTIFICATION

- ★ Small to medium evergreen desert tree
- ★ Narrow, gray-green phyllodes (not true leaves)
- ★ Dense, rounded to irregular canopy

☀️ SITE & SUN

- ★ Full sun only
- ★ Excellent heat tolerance
- ★ Ideal for medians, parking islands, and low-water designs

💧 WATERING

- ★ **Summer:** Deep soak every **21–30 days**
- ★ **Winter:** Every **45–60 days**
- ★ ***Overwatering causes rapid decline***

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH soils
- ★ Root rot in turf or poorly drained sites
- ★ Sparse growth with excess irrigation

⚠️ ARBORIST FIELD NOTES

- ★ One of the **best low-litter evergreen trees** for Phoenix
- ★ Performs best on true desert irrigation schedules
- ★ Most failures trace to irrigation frequency, not pests

RED GUM EUCALYPTUS

(Eucalyptus camaldulensis)

🔍 IDENTIFICATION

- ★ Large evergreen tree with tall, spreading canopy
- ★ Long, narrow, blue-green to gray-green leaves
- ★ Smooth bark peeling in strips (white, gray, tan patches)

☀️ SITE & SUN

- ★ Full sun only
- ★ Extremely heat-tolerant
- ★ Requires large open spaces — not suitable near structures

💧 WATERING

- **Summer:** Deep soak every 14–21 days
- **Winter:** Every 30–45 days
- *Shallow or frequent irrigation increases failure risk*

🐛🦠 COMMON ISSUES

- ★ Limb drop (“summer branch drop”)
- ★ Root damage to hardscape and utilities
- ★ Aphids and psyllids (secondary stress pests)

⚠️ ARBORIST FIELD NOTES

- ★ Fast growth equals **high structural risk**
- ★ Not recommended for new Phoenix installations
- ★ Existing trees require proactive risk assessment

BLUE GUM EUCALYPTUS

(Eucalyptus globulus)

🔍 IDENTIFICATION

- ★ Huge evergreen tree with tall, spreading canopy
- ★ Smooth bark peeling in long strips (white, gray, blue tones)
- ★ Juvenile leaves, round and blue-gray; adult leaves are long and lance-shaped

☀️ SITE & SUN

- ★ Full sun only
- ★ Extremely heat-tolerant once established
- ★ Requires large open areas — canals, parks, legacy plantings

💧 WATERING

- **Summer:** Deep soak every **14–21 days**
- **Winter:** Every **30–45 days**
- *Shallow or frequent irrigation increases failure risk*

🐛🦠 COMMON ISSUES

- ★ Limb drop (“summer branch drop”)
- ★ Root damage to pavement and utilities
- ★ Psyllids and aphids (secondary stress pests)

⚠️ ARBORIST FIELD NOTES

- ★ Present in Arizona, but **less common than Red Gum**
- ★ High-speed growth = **high structural risk**
- ★ Not recommended for new Phoenix installations

SILVER DOLLAR EUCALYPTUS

((Eucalyptus cinerea)



🔍 IDENTIFICATION

- ★ Medium evergreen tree with upright form
- ★ Round, blue-gray juvenile leaves (coin-shaped)
- ★ Smooth gray bark, sheds in strips

☀️ SITE & SUN

- ★ Full sun only
- ★ Very high heat tolerance
- ★ Requires space; not for small islands or courtyards

💧 WATERING

- ★ **Summer:** Deep soak every 14–21 days
- ★ **Winter:** Every 30–45 days
- ★ Excess water increases weak, rapid growth

🐛🦠 COMMON ISSUES

- ★ Limb failure from fast growth
- ★ Root issues in compacted or wet soils
- ★ Borer activity under stress

⚠️ ARBORIST FIELD NOTES

- ★ Grown primarily for **juvenile foliage**, not longevity
- ★ Requires **regular structural pruning**
- ★ Poor placement leads to frequent removals

ALEPPO PINE

(Pinus halepensis)



🔍 IDENTIFICATION

- ★ Medium to large evergreen pine with irregular, open canopy
- ★ Long, slender needles in pairs (light green)
- ★ Orange-brown, plated bark with age

☀️ SITE & SUN

- ★ Full sun only
- ★ High heat tolerance once established
- ★ Common in parks, campuses, and older HOAs

💧 WATERING

- **Summer:** Deep soak every 21–30 days
- **Winter:** Every 45–60 days
- *Overwatering leads to root disease and instability*

🐛🦠 COMMON ISSUES

- ★ Bark beetles under drought or irrigation stress
- ★ Needle drop from root decline
- ★ Windthrow from shallow rooting

⚠️ ARBORIST FIELD NOTES

- ★ Performs best on **deep, infrequent irrigation**
- ★ Sensitive to sudden irrigation reductions
- ★ Not ideal for turf conversion projects

AFGHAN PINE

(Pinus eldarica)



🔍 IDENTIFICATION

- ★ Medium to large evergreen pine with dense, pyramidal canopy
- ★ Long, stiff needles in pairs (dark green)
- ★ Gray-brown bark, becoming plated with age

☀️ SITE & SUN

- ★ Full sun only
- ★ Very heat-tolerant
- ★ Common in HOAs, parks, and commercial landscapes

💧 WATERING

- **Summer:** Deep soak every **21–30 days**
- **Winter:** Every **45–60 days**
- *Overwatering leads to root disease and decline*

🐛🦠 COMMON ISSUES

- ★ Bark beetles under drought or irrigation stress
- ★ Needle drop from root decline
- ★ Windthrow from shallow rooting

⚠️ ARBORIST FIELD NOTES

- ★ Bark beetles under drought or irrigation stress
- ★ Needle drop from root problems
- ★ Tip blight in poorly drained soils

MONDELL PINE

(Pinus eldarica 'Mondell')



🔍 IDENTIFICATION

- ★ Medium to large evergreen pine with dense, pyramidal form
- ★ Long, dark green needles in **pairs** (stiffer than Aleppo)
- ★ Gray-brown bark, becoming plated with age

☀️ SITE & SUN

- ★ Full sun only
- ★ Very heat-tolerant
- ★ Common in Phoenix HOAs, parks, and commercial sites

💧 WATERING

- ★ **Summer:** Deep soak every 21–30 days
- ★ **Winter:** Every 45–60 days
- ★ *Overwatering leads to shallow roots and decline*

🐛🦠 COMMON ISSUES

- ★ Bark beetles under irrigation or drought stress
- ★ Needle drop from root problems
- ★ Windthrow when surface-rooted

⚠️ ARBORIST FIELD NOTES

- ★ Better Phoenix performer than Aleppo or Italian Stone Pine
- ★ Frequently declines after turf conversions
- ★ Performs best with **deep, infrequent irrigation** and open soil
- ★ Tip blight in poorly drained soils

CANARY ISLAND PINE

(Pinus canariensis)



🔍 IDENTIFICATION

- ★ Large evergreen pine with tall, upright form
- ★ Very long, flexible needles in **bundles of 3**
- ★ Thick, dark, deeply furrowed bark with a massive trunk

☀️ SITE & SUN

- ★ Full sun only
- ★ High heat tolerance once established
- ★ Requires large open spaces — parks, campuses, estates

💧 WATERING

- ★ **Summer:** Deep soak every **21–30 days**
- ★ **Winter:** Every **45–60 days**
- ★ *Shallow irrigation leads to surface rooting and instability*

🐛🦠 COMMON ISSUES

- ★ Bark beetles under drought or irrigation stress
- ★ Windthrow when root zones are restricted
- ★ Needle drop from root decline

⚠️ ARBORIST FIELD NOTES

- ★ Best-performing **large pine** for Phoenix
- ★ Fire-adapted species with thick protective bark
- ★ Performs best with **deep soil, space, and infrequent watering**

FRUITLESS MULBERRY

(Morus alba 'Fruitless')



🔍 IDENTIFICATION

- ★ Medium to large deciduous tree with a broad, dense canopy
- ★ Large, glossy green leaves (variable shapes common)
- ★ Light gray bark; rapid juvenile growth

☀️ SITE & SUN

- ★ Full sun to light shade
- ★ Moderate heat tolerance
- ★ Common in older HOAs, parks, and residential yards

💧 WATERING

- ★ **Summer:** Deep soak every 14–21 days
- ★ **Winter:** Every 30–45 days
- ★ Overwatering drives weak wood and surface roots

🐛🦠 COMMON ISSUES

- ★ Heavy aphids → honeydew → sooty mold
- ★ Limb failure from fast, weak growth
- ★ Root damage to hardscape in irrigated turf

⚠️ ARBORIST FIELD NOTES

- ★ "Fruitless" reduces mess, **not maintenance problems**
- ★ High litter, aggressive roots, frequent failure complaints
- ★ Generally **not recommended** for new Phoenix installs

LITTLELEAF CORDIA *(Cordia parvifolia)*

🔍 IDENTIFICATION

- ★ Small evergreen desert tree with a rounded canopy
- ★ Small, rough-textured leaves (gray-green)
- ★ White star-shaped flowers in warm months

☀️ SITE & SUN

- ★ Full sun
- ★ Excellent heat tolerance
- ★ Ideal for courtyards, parking islands, and low-water designs

💧 WATERING

- ★ **Summer:** Deep soak every 21–30 days
- ★ **Winter:** Every 45–60 days
- ★ *Overwatering causes a thinning canopy and decline*

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH or compacted soils
- ★ Root rot in turf or frequently irrigated sites
- ★ Sparse flowering from excess water or shade

⚠️ ARBORIST FIELD NOTES

- ★ One of the **most overwatered trees in Phoenix**
- ★ Performs best when treated as a **true low-water tree**
- ★ Excellent choice when irrigation is properly controlled

TEXAS MOUNTAIN LAUREL *(Sophora secundiflora)*



🔍 IDENTIFICATION

- ★ Small evergreen tree with dense, rounded canopy
- ★ Thick, glossy, dark-green compound leaves
- ★ Fragrant purple spring flowers (grape-soda smell)

☀️ SITE & SUN

- ★ Full sun to light shade
- ★ Excellent heat tolerance
- ★ Common in courtyards, HOAs, and entry features

💧 WATERING

- ★ **Summer:** Deep soak every 21–30 days
- ★ **Winter:** Every 45–60 days
- ★ *Overwatering causes root decline and chlorosis*

🐛🦠 COMMON ISSUES

- ★ Iron chlorosis in high-pH soils
- ★ Root rot in turf or poorly drained sites
- ★ Leaf drop from excess irrigation

⚠️ ARBORIST FIELD NOTES

- ★ Extremely **slow-growing** — decline is often misdiagnosed
- ★ Performs best outside turf irrigation zones
- ★ Excellent evergreen when water is kept **deep and infrequent**

VITEX / CHASTE TREE

(Vitex agnus-castus)

🔍 IDENTIFICATION

- ★ Medium deciduous tree with open, spreading canopy
- ★ Palmately compound leaves (5–7 narrow leaflets)
- ★ Showy purple to lavender flower spikes in late spring–summer

☀️ SITE & SUN

- ★ Full sun only
- ★ High heat tolerance
- ★ Common in HOAs, medians, and ornamental landscapes

💧 WATERING

- ★ **Summer:** Deep soak every **14–21 days**
- ★ **Winter:** *Every **30–45 days***
- ★ *Overwatering reduces flowering and weakens the structure*

🐛🦠 COMMON ISSUES

- ★ Aphids and whiteflies (seasonal)
- ★ Sparse flowering from excess water or shade
- ★ Dieback from poor drainage or turf irrigation

⚠️ ARBORIST FIELD NOTES

- ★ Performs best when treated as a **low-water deciduous tree**
- ★ Often over-irrigated because it “looks thirsty.”
- ★ Responds well to light structural pruning after bloom

CRAPE MYRTL

(Lagerstroemia indica)



🔍 IDENTIFICATION

- ★ Small deciduous tree with multi-trunk form
- ★ Smooth, exfoliating bark with mottled coloration
- ★ Showy summer flower clusters (pink, red, white, purple)

☀️ SITE & SUN

- ★ Full sun only
- ★ Moderate to high heat tolerance
- ★ Best in courtyards, streetscapes, and accent plantings

💧 WATERING

- ★ **Summer:** Deep soak every **10–14 days**
- ★ **Winter:** Every **30–45 days**
- ★ *Declines with chronic drought stress or shallow watering*

🐛🦠 COMMON ISSUES

- ★ Aphids and whiteflies (seasonal)
- ★ Sparse flowering from excess water or shade
- ★ Dieback from poor drainage or turf irrigation

⚠️ ARBORIST FIELD NOTES

- ★ Performs best when treated as a **low-water deciduous tree**
- ★ Often over-irrigated because it “looks thirsty.”
- ★ Responds well to light structural pruning after bloom

CASCALOTE TREE

(Caesalpinia cacalaco)

🔍 IDENTIFICATION

- ★ Small evergreen to semi-evergreen tree
- ★ Fine bipinnate leaves with airy canopy
- ★ Bright yellow flower clusters with red stamens

☀️ SITE & SUN

- ★ Full sun only
- ★ Excellent heat tolerance
- ★ Best in open desert landscapes and courtyards

💧 WATERING

- ★ **Summer:** Deep soak every 21–30 days
- ★ **Winter:** Every 45–60 days
- ★ Sensitive to overwatering once established

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH soils
- ★ Root rot in poorly drained or irrigated turf areas
- ★ Sparse flowering with excess water

⚠️ ARBORIST FIELD NOTES

- ★ Excellent **low-water ornamental tree** for Phoenix
- ★ Performs best when kept on desert irrigation
- ★ Decline is almost always tied to excess moisture

CAROB TREE

(Ceratonia siliqua)



🔍 IDENTIFICATION

- ★ Medium to large evergreen tree with dense, rounded canopy
- ★ Thick, glossy, dark-green compound leaves
- ★ Large, leathery seed pods (often persistent)

☀️ SITE & SUN

- ★ Full sun preferred
- ★ Excellent heat tolerance
- ★ Requires space; avoid tight courtyards and small islands

💧 WATERING

- ★ **Summer:** Deep soak every **21–30 days**
- ★ **Winter:** Every **45–60 days**
- ★ *Overwatering leads to root decline and poor structure*

🐛🦠 COMMON ISSUES

- ★ Chlorosis in high-pH or compacted soils
- ★ Root rot in poorly drained or turf settings
- ★ Pod litter complaints (site management issue)

⚠️ ARBORIST FIELD NOTES

- ★ Very tough, **low-water evergreen** once established
- ★ Slow to moderate growth; long-term performer
- ★ Most failures trace back to **excess irrigation or poor drainage**

FEATHERBUSH TREE

(Lysiloma thornberi)

🔍 IDENTIFICATION

- ★ Medium to large evergreen tree with dense, rounded canopy
- ★ Thick, glossy, dark-green compound leaves
- ★ Large, leathery seed pods (often persistent)

☀️ SITE & SUN

- ★ Full sun preferred
- ★ Excellent heat tolerance
- ★ Requires space; avoid tight courtyards and small islands

💧 WATERING

- ★ **Summer:** Deep soak every 30–45 days
- ★ **Winter:** Minimal to none
- ★ Highly sensitive to frequent irrigation

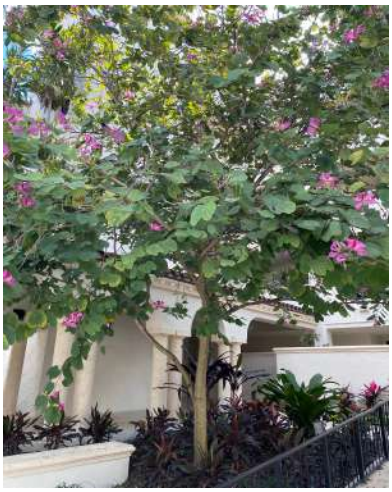
🐛🦠 COMMON ISSUES

- ★ Borers under irrigation stress
- ★ Root decline in compacted or turf areas
- ★ Sparse growth with excess moisture

⚠️ ARBORIST FIELD NOTES

- ★ True desert species — **treat like a native**
- ★ Overwatering is the primary failure cause
- ★ Excellent low-water alternative to Mesquite in tight sites

HONG KONG ORCHID TREE (Bauhinia variegata)



🔍 IDENTIFICATION

- ★ Small to medium deciduous tree
- ★ Distinctive twin-lobed leaves (“camel’s foot”)
- ★ Large, showy orchid-like flowers (pink to purple)

☀️ SITE & SUN

- ★ Full sun to light shade
- ★ Moderate heat tolerance
- ★ Best in protected courtyards and low-traffic landscapes

💧 WATERING

- ★ **Summer:** Deep soak every **14–21 days**
- ★ **Winter:** Every **30–45 days**
- ★ Sensitive to both drought stress and overwatering

🐛🦠 COMMON ISSUES

- ★ Frost damage in cold winters
- ★ Aphids and scale (stress-related)
- ★ Root rot in poorly drained soils

⚠️ ARBORIST FIELD NOTES

- ★ Grown primarily for **flowers, not structure**
- ★ Shorter-lived than desert natives
- ★ Performs best with **good drainage and some wind protection**

TREE IDENTIFICATION GUIDE

JERUSALEM THORN (Parkinsonia aculeata)



🔍 IDENTIFICATION

- ★ Medium desert tree with open, irregular canopy
- ★ Green photosynthetic bark with **prominent, sharp thorns**
- ★ Small yellow flowers and fine, bipinnate leaves

☀️ SITE & SUN

- ★ Full sun only
- ★ Extremely heat-tolerant
- ★ Found mostly in **older Phoenix landscapes** and legacy plantings

💧 WATERING

- ★ **Summer:** Deep soak every 30–45 days
- ★ **Winter:** Minimal to none
- ★ *Overwatering causes rapid decline and borer pressure*

🐛🦠 COMMON ISSUES

- ★ Borers under irrigation stress
- ★ Root rot in turf or compacted soils
- ★ Limb dieback from excess water

⚠️ ARBORIST FIELD NOTES

- ★ Largely replaced by modern Palo Verde varieties
- ★ High injury risk due to thorns — poor pedestrian tree
- ★ Performs best when treated as a **true desert native**, not a landscape tree

JACARANDA

(Jacaranda mimosifolia)



🔍 IDENTIFICATION

- ★ Medium deciduous tree with broad, spreading canopy
- ★ Fine, fern-like bipinnate leaves
- ★ Showy purple-blue flowers in late spring

☀️ SITE & SUN

- ★ Full sun
- ★ Moderate heat tolerance
- ★ Common in older Phoenix neighborhoods and streetscapes

💧 WATERING

- ★ **Summer:** Deep soak every **14–21 days**
- ★ **Winter:** Every **30–45 days**
- ★ *Declines with chronic drought or turf-style irrigation*

🐛🦠 COMMON ISSUES

- ★ Dieback from heat stress and poor irrigation timing
- ★ Weak branch structure → storm damage
- ★ Sparse flowering from excess water or shade

⚠️ ARBORIST FIELD NOTES

- ★ **Marginal Phoenix performer** — site quality matters
- ★ Performs best with afternoon shade and deep soil
- ★ Often kept for aesthetics despite higher maintenance need

adaptive
PLANT HEALTH & WEED SOLUTIONS

TREE IDENTIFICATION GUIDE

SISSOO (Dalbergia sissoo)



🔍 IDENTIFICATION

- ★ Medium to large deciduous tree with rapid growth
- ★ Compound leaves with rounded leaflets
- ★ Gray-brown bark; aggressive surface rooting common

☀️ SITE & SUN

- ★ Full sun only
- ★ Extremely heat-tolerant
- ★ Widely planted in older HOAs and streetscapes

💧 WATERING

- ★ **Summer:** Deep soak every 14–21 days
- ★ **Winter:** Every 30–45 days
- ★ *Irrigation accelerates root spread and structural problems*

🐛🦠 COMMON ISSUES

- ★ Dieback from heat stress and poor irrigation timing
- ★ Weak branch structure → storm damage
- ★ Sparse flowering from excess water or shade

⚠️ ARBORIST FIELD NOTES

- ★ **High-liability tree** in Phoenix landscapes
- ★ Not recommended near hardscape, pools, or foundations
- ★ Frequently removed due to root damage and failure risk

INDIAN LAUREL FIG / FICUS NITIDA (Ficus microcarpa)



🔍 IDENTIFICATION

- ★ Medium to large evergreen with a very dense shade canopy
- ★ Glossy oval leaves; thick foliage used as screens
- ★ Smooth gray bark; aggressive surface roots in irrigated sites

☀️ SITE & SUN

- ★ Full sun to light shade
- ★ Heat-tolerant (common in Phoenix as a shade/screen tree)
- ★ Keep away from hardscape if irrigation is frequent (root conflicts)

💧 WATERING

- ★ **Summer:** Deep soak every **7–14 days** (species is water-demanding)
- ★ **Winter:** Every **21–30 days**
- ★ *Overfertilizing stressed/defoliated trees can backfire—go light and diagnose first*

🐛🦠 COMMON ISSUES

- ★ Ficus whitefly → defoliation; sunburn risk after heavy leaf loss
- ★ Cuban laurel thrips / weeping fig thrips → distorted, galled leaves
- ★ Scale insects and secondary sooty mold when stressed

⚠️ ARBORIST FIELD NOTES

- ★ Defoliation → protect branches from sunburn
- ★ Thrips damage is cosmetic—ID first
- ★ Roots + water matter more than sprays

PALM IDENTIFICATION

Phoenix & Low-Desert Landscapes



Purpose

Palms are **not trees**. They are **monocots**, with entirely different biology, structure, and failure patterns. This section exists to prevent misdiagnosis, improper pruning, and avoidable palm loss in Phoenix landscapes.

In the low desert, most palm decline is **management-caused**, not pest-caused.

Why Palms Are Different

- Single growing point (bud) — damage is **permanent and often fatal**
- No secondary growth — palms **do not seal wounds**
- Nutrient deficiencies are expressed in **specific, repeatable leaf patterns**

Common Causes of Palm Failure in Phoenix

- Over-pruning (“hurricane cuts”)
- Chronic nutrient deficiencies (K, Mg, Mn)
- Incorrect irrigation depth and frequency

CALIFORNIA FAN PALM

(Washingtonia filifera)



🔍 IDENTIFICATION

- ★ Very tall fan palm with a **thick trunk**
- ★ Fan-shaped fronds with **heavy fiber ("skirt")** on trunk
- ★ Slower growth than Mexican Fan Palm

☀️ SITE & SUN

- ★ Full sun only
- ★ Excellent heat tolerance
- ★ Best in open areas, parks, and large landscapes

💧 WATERING

- ★ **Summer:** Deep soak every **14–21 days**
- ★ **Winter:** Every **30–45 days**
- ★ *Overwatering leads to nutrient loss and trunk softening*

🐛🦠 COMMON ISSUES

- ★ Potassium deficiency (older fronds necrosis)
- ★ Magnesium deficiency (yellow banding)
- ★ Ganoderma butt rot (fatal; no treatment)

⚠️ ARBORIST FIELD NOTES

- ★ Frequently confused with the **Mexican Fan Palm**
- ★ **Thicker trunk = lower water demand**
- ★ Never remove green fronds — pruning drives deficiencies

MEXICAN FAN PALM

(Washingtonia robusta)



🔍 IDENTIFICATION

- ★ Tall, fast-growing fan palm with **slender trunk**
- ★ Fan-shaped fronds with **fine filament threads**
- ★ Narrow trunk relative to height; skirt often retained if not pruned

☀️ SITE & SUN

- ★ Full sun only
- ★ Excellent heat tolerance
- ★ Best in open areas; poor choice for small courtyards

💧 WATERING

- ★ **Summer:** Deep soak every **10–14 days**
- ★ **Winter:** Every **21–30 days**
- ★ *Shallow watering promotes weak rooting and nutrient loss*

🐛🦠 COMMON ISSUES

- ★ Most **over-pruned palm** in Phoenix
- ★ Removing green fronds accelerates deficiencies
- ★ Tall, skinny trunk = **higher water demand** than California Fan Palm

⚠️ ARBORIST FIELD NOTES

- ★ Most over-pruned palm in Phoenix
- ★ Removing green fronds accelerates deficiencies
- ★ Tall, skinny trunk = higher water demand than California Palm

CANARY ISLAND DATE PALM *(Phoenix canariensis)*



🔍 IDENTIFICATION

- ★ Massive palm with **thick trunk** and dense crown
- ★ Long, stiff feather (pinnate) fronds with sharp petioles
- ★ Heavy fruit clusters hanging below the crown

☀️ SITE & SUN

- ★ Full sun only
- ★ Excellent heat tolerance
- ★ Requires large open areas; not for tight courtyards

💧 WATERING

- ★ **Summer:** Deep soak every **14–21 days**
- ★ **Winter:** Every **30–45 days**
- ★ *Overwatering increases disease and nutrient loss*

🐛🦠 COMMON ISSUES

- ★ Fusarium wilt (fatal; pruning spread risk)
- ★ Ganoderma butt rot (fatal; no treatment)
- ★ Potassium and magnesium deficiencies

⚠️ ARBORIST FIELD NOTES

- ★ **Fruit is heavy and messy** — major HOA complaint
- ★ Over-pruning accelerates nutrient deficiencies
- ★ Sterilized tools are critical to prevent disease spread

MEXICAN FAN PALM

(Washingtonia robusta)



🔍 IDENTIFICATION

- ★ Tall, fast-growing fan palm with **slender trunk**
- ★ Fan-shaped fronds with **fine filament threads**
- ★ Narrow trunk relative to height; skirt often retained if not pruned

☀️ SITE & SUN

- ★ Full sun only
- ★ Excellent heat tolerance
- ★ Best in open areas; poor choice for small courtyards

💧 WATERING

- ★ **Summer:** Deep soak every **10–14 days**
- ★ **Winter:** Every **21–30 days**
- ★ *Shallow watering promotes weak rooting and nutrient loss*

🐛🦠 COMMON ISSUES

- ★ Potassium deficiency (older frond necrosis)
- ★ Magnesium deficiency (yellow banding on older fronds)
- ★ Ganoderma butt rot (fatal; no cure)

⚠️ ARBORIST FIELD NOTES

- ★ Most **over-pruned palm** in Phoenix
- ★ Removing green fronds accelerates deficiencies
- ★ Tall, skinny trunk = **higher water demand**

MEDITERRANEAN FAN PALM *(Chamaerops humilis)*



🔍 IDENTIFICATION

- ★ Clumping, **multi-trunk** fan palm (rarely single trunk)
- ★ Compact size with stiff, blue-green to dark-green fronds
- ★ Sharp petiole spines; orange-brown fruit clusters

☀️ SITE & SUN

- ★ Full sun to light shade
- ★ Excellent heat tolerance
- ★ Ideal for courtyards, entries, and tight planting areas

💧 WATERING

- ★ **Summer:** Deep soak **every 21–30 days**
- ★ **Winter:** Every **45–60 days**
- ★ *Overwatering causes crown thinning and root issues*

🐛🦠 COMMON ISSUES

- ★ Potassium deficiency (older frond spotting/necrosis)
- ★ Scale insects, when stressed
- ★ Root rot in turf or poorly drained soils

⚠️ ARBORIST FIELD NOTES

- ★ One of the **toughest small palms** for Phoenix
- ★ Minimal pruning—remove **only dead** fronds
- ★ Excellent low-water alternative to larger, messier palms

PYGMY DATE PALM

(Phoenix roebelenii)



🔍 IDENTIFICATION

- ★ Small, **single or multi-trunk** feather palm
- ★ Fine, arching fronds with narrow leaflets
- ★ Slender trunk with closely spaced leaf scars

☀️ SITE & SUN

- ★ Light shade to **filtered sun** preferred
- ★ Heat-tolerant but **burns in reflected heat**
- ★ Best for courtyards, entries, and protected patios

💧 WATERING

- ★ **Summer:** Deep soak every **7–14 days**
- ★ **Winter:** Every **21–30 days**
- ★ *Highly sensitive to drought stress and poor drainage*

🐛🦠 COMMON ISSUES

- ★ Potassium & manganese deficiencies
- ★ Scale insects and spider mites under stress
- ★ Trunk and crown rot in over-irrigated sites

⚠️ ARBORIST FIELD NOTES

- ★ One of the **most mis-sited palms** in Phoenix
- ★ Never place in hot, west-facing reflected heat
- ★ Looks “pest-ridden” when the real issue is water + nutrition

DATE PALM

(Phoenix dactylifera)



🔍 IDENTIFICATION

- ★ Tall feather (pinnate) palm with stout trunk
- ★ Rigid fronds with sharp petiole spines
- ★ Large hanging clusters of **dates** (fruiting palms)

☀️ SITE & SUN

- ★ Full sun only
- ★ Excellent heat tolerance
- ★ Requires space; best for parks, estates, and large sites

💧 WATERING

- ★ **Summer:** Deep soak every **14–21 days**
- ★ **Winter:** Every **30–45 days**
- ★ *Poor drainage or shallow watering accelerates decline*

🐛🦠 COMMON ISSUES

- ★ Potassium & magnesium deficiencies
- ★ Scale insects, when stressed
- ★ Ganoderma butt rot (fatal; no treatment)

⚠️ ARBORIST FIELD NOTES

- ★ Male vs female trees: **only females fruit**
- ★ Heavy fruit = management + litter consideration
- ★ Over-pruning worsens nutrient deficiencies and sunburn risk

PEST & STRESS Understanding What's Really Affecting Your Trees

Trees in Phoenix rarely decline for a single reason. **Most pest and disease problems are secondary, triggered by stress first.**

This section helps you learn how to **separate pests from symptoms**, identify **true causes**, and avoid the most common (and expensive) misdiagnoses seen in desert landscapes.

WHY STRESS COMES FIRST IN ARIZONA

In desert environments, trees are constantly managing:

- Extreme heat and sun exposure
- Limited and inconsistent water
- Alkaline soils and salt buildup
- Improper planting depth and root damage

When stress weakens a tree's defenses, **pests and pathogens move in**. Treating insects without correcting stress is like treating a fever without addressing the infection.

HOW TO USE THIS SECTION

Each pest or stress profile in this guide is designed for **field diagnosis**, not theory. You'll see:

- **Primary hosts** (what's actually affected)
- **Key identification clues** (what to look for first)
- **Common misdiagnoses** (what it's often confused with)
- **Why it matters** (when action is critical)

Field-tip callouts reflect **real Phoenix conditions**, not textbook scenarios

A CRITICAL DISTINCTION

Not everything that looks like disease is disease.

Many issues are:

- Abiotic stress (heat, salt, water, planting depth)
- Cultural problems (over-pruning, staking, irrigation errors)
- Secondary pests are taking advantage of weakened tissue

Chemical treatments **will not fix** environmental or structural problems — and can make them worse.

THE GOAL

The purpose of this section is simple:

- Catch problems **earlier**
- Treat **smarter**, not harder
- Extend tree life
- Reduce unnecessary chemical use
- Protect long-term canopy value

Healthy trees resist pests, Strong roots prevent decline, **and diagnosis always comes before treatment.**

PHC Pest & Stress Field Guide
SUCKING INSECTS — *"The Mess Makers"*
Ficus Whitefly (Singhiella simplex)



Primary Hosts

- Indian Laurel Fig (Ficus microcarpa, nitida)

Key Identification

- Fine **white powder/dust** on leaves
- Rapid **defoliation from the interior outward**
- Leaves may yellow, curl, and then drop
- Tiny whiteflies on the **underside of leaves**

What It Looks Like (Field Tip)

"It looks like the hedge is snowing… in Phoenix."

Common Misdiagnoses

- ~~Heat stress~~ (defoliation pattern is wrong)
- ~~Nitrogen deficiency~~

Why It Matters

- Can fully strip hedges in weeks
- Repeated defoliation weakens long-term structure

Cochineal Scale



Primary Hosts

- Prickly Pear (Opuntia spp.)

Key Identification

- **White cottony clumps** on pads and joints
- When crushed → **deep red/purple dye**
- Pads may yellow or collapse over time

What It Looks Like

"Someone glued cotton balls to the cactus."

Common Misdiagnoses

- ❌ Mealybugs (on ornamentals, not cactus pads)
- ❌ Fungal growth

Why It Matters

- Chronic infestations weaken pads
- Aesthetic damage is severe in HOA landscapes

Aphids



Primary Hosts

- Oleander, roses, citrus, and many ornamentals

Key Identification

- Sticky honeydew on leaves and sidewalks
- Black sooty mold growing on honeydew
- Clusters of small soft-bodied insects on new growth

What It Looks Like

“Leaves are shiny, sidewalk is sticky, ants everywhere.”

Common Misdiagnoses

- ✗ Fungal leaf disease
- ✗ Overwatering

Why It Matters

- Mostly cosmetic, but chronic stress weakens plants
- Ant activity protects aphids → infestation persists

🪓 CHEWING & STRUCTURAL PESTS — “The Killers.”

Agave Snout Weevil

Primary Hosts

- Agave (Century Plants)

Key Identification

- Sudden wilt or collapse
- Base feels loose or hollow
- Often smells rotten when disturbed
- Damage is usually already fatal when noticed

What It Looks Like

“It was fine last week. Now it’s dead.”

Common Misdiagnoses

- ❌ Frost damage
- ❌ Overwatering alone

Why It Matters

- Larvae destroy the growing point
- Early prevention is critical — late treatment rarely works

Palo Verde Root Borers



Primary Hosts

- Palo Verde (all species)

Key Identification

- Tree leans or tips unexpectedly
- Canopy dieback despite “adequate” watering
- Root zone instability
- Often, there are no visible trunk exit holes

What It Looks Like

“Tree just gave up and fell over.”

Common Misdiagnoses

- ❌ Wind damage
- ❌ Poor staking

Why It Matters

- Structural root loss = sudden failure risk
- Often linked to stress + opportunistic infestation

Bark Beetles (Ips species)



Primary Hosts

- Pines (Aleppo, Afghan, Eldarica)

Key Identification

- Fading or thinning tops
- Fine boring dust on bark
- Pitch tubes may or may not be present
- Multiple small exit holes

What It Looks Like

“Top-down fade, fast and ugly.”

Common Misdiagnoses

- ❌ Drought stress alone
- ❌ Needle cast disease

Why It Matters

- Often fatal once established
- Strongly linked to drought-stressed trees

ABIOTIC STRESS vs DISEASE

Salt Burn (Salinity Stress)

Key Identification

- Brown, crispy leaf edges
- Uniform damage across the plant
- More severe near the drip lines
- Common in reclaimed water areas

What It Looks Like

“Every leaf looks burned the same way.”

Common Misdiagnoses

- ❌ Fungal leaf spot
- ❌ Nutrient deficiency

Why It Matters

- Chemical treatment won’t fix it
- Soil remediation is the solution

Heat Stress / Sunscald



Key Identification

- Bark cracking or peeling
- Damage on south/west exposures
- Cambium death under bark
- Often followed by secondary pathogens

What It Looks Like

“The tree got cooked on one side.”

Common Misdiagnoses

- ❌ Canker disease (secondary vs primary)
- ❌ Mechanical damage

Why It Matters

- Sunscald opens the door to lethal pathogens
- Prevention > treatment

Fungal Limb Dieback (Mulberry / Citrus)



Key Identification

- Random limb dieback
- Sunken or discolored bark
- Progresses branch-by-branch, not uniformly

What It Looks Like

“One branch dies, others look fine… for now.”

Common Misdiagnoses

- ❌ Drought stress
- ❌ Normal pruning response

Why It Matters

- Often secondary to stress
- Requires correcting the underlying cause

Leaf Symptom Diagnostics – Nutrient Deficiencies

Purpose of This Section

This section trains technicians and arborists to **diagnose nutrient-related stress by reading leaf symptoms before selecting treatments**. Leaf discoloration, distortion, and growth patterns provide critical clues about **what is happening *below ground*.**

In Arizona, many apparent nutrient deficiencies are not caused by a lack of nutrients in the soil, but by **soil conditions that prevent uptake**, including high pH, caliche layers, compaction, and improper irrigation.

This section should be used **before** fertilization, injections, or foliar applications.

How to Read Leaf Symptoms (Foundational Concepts)

Mobile vs. Immobile Nutrients

Understanding nutrient mobility is the fastest way to narrow down a diagnosis:

- **Mobile nutrients** move within the plant. When scarce, the plant pulls them from **older leaves** to support new growth.
    - Examples: Nitrogen (N), Phosphorus (P), Potassium (K), Magnesium (Mg)
- **Immobile nutrients** cannot move within the plant. Deficiencies appear first on **new leaves**.
    - Examples: Iron (Fe), Calcium (Ca), Zinc (Zn), Manganese (Mn)

Old Leaves vs. New Leaves

- **Older leaves affected first** → Likely a *mobile nutrient* issue or general stress
- **New leaves affected first** → Likely an *immobile nutrient* issue or root uptake problem

This distinction alone eliminates over 50% of misdiagnoses.

Arizona-Specific Reality Check

Phoenix-area soils commonly contain adequate nutrients but suffer from:

- High soil pH (alkaline conditions)
- Caliche layers restricting root growth
- Poor oxygen exchange
- Inconsistent irrigation

These conditions cause **nutrient lock-out**, meaning nutrients are present but unavailable.

Important: Do not treat visual symptoms alone. Always evaluate irrigation, soil structure, and root health first.

Adaptive Diagnostic Standard

Follow this order:

1. Observe leaf symptoms
2. Identify leaf age affected (old vs new)
3. Match the visual pattern
4. Evaluate soil and irrigation conditions
5. Confirm with soil or tissue testing
6. Apply targeted correction

How to Use This Guide

1. **Identify which leaves are affected first** (old vs. new growth).
2. **Look at the pattern** (uniform yellowing, interveinal chlorosis, marginal burn, spotting).
3. **Match the symptom** below.
4. **Confirm with soil or tissue testing** before aggressive correction.

Arizona note: High soil pH, caliche, compaction, and poor drainage often cause *nutrient lock-out*, not true deficiency.

Common Nutrient Deficiencies by Leaf Symptom

Nitrogen Deficiency

Nitrogen (N)

- **Leaf age affected:** Older leaves first
- **Visual cue:** Uniform pale green → yellowing across the entire leaf
- **Other signs:** Reduced growth, thin canopy
- **Arizona trigger:** Low organic matter, sandy soils
- **Correction:** Low-salt nitrogen + soil biology support (avoid overapplication)

Common Nutrient Deficiencies by Leaf Symptom

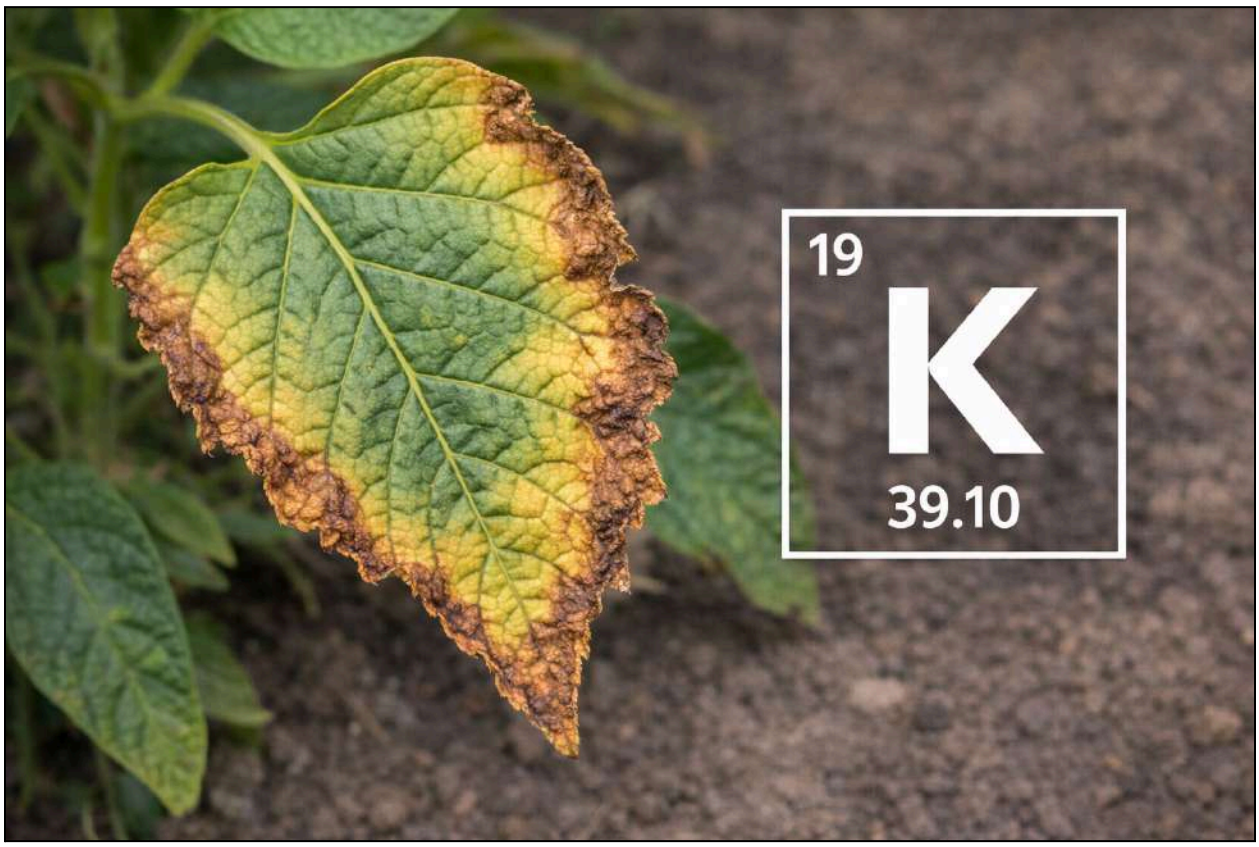
Phosphorus Deficiency

Phosphorus (P)

- **Leaf age affected:** Older leaves
- **Visual cue:** Dark green leaves with purple or reddish tint (undersides)
- **Other signs:** Poor root development, delayed growth
- **Arizona trigger:** Cold soils, high pH tie-up
- **Correction:** Root-zone delivery; avoid surface applications

Common Nutrient Deficiencies by Leaf Symptom

Potassium Deficiency



Potassium (K)

- **Leaf age affected:** Older leaves
- **Visual cue:** Yellowing or browning on leaf margins (edge scorch)
- **Other signs:** Weak stress tolerance, poor drought resistance
- **Arizona trigger:** Leached soils, salt stress
- **Correction:** Balanced potassium sources + irrigation correction

Common Nutrient Deficiencies by Leaf Symptom

Iron Deficiency

Iron (Fe)

- **Leaf age affected:** New leaves first
- **Visual cue:** Bright yellow leaves with green veins
- **Other signs:** Severe chlorosis in alkaline soils
- **Arizona trigger:** High pH, caliche, poor root oxygen
- **Correction:** Soil-applied chelated iron + pH management (avoid foliar-only fixes)

Common Nutrient Deficiencies by Leaf Symptom

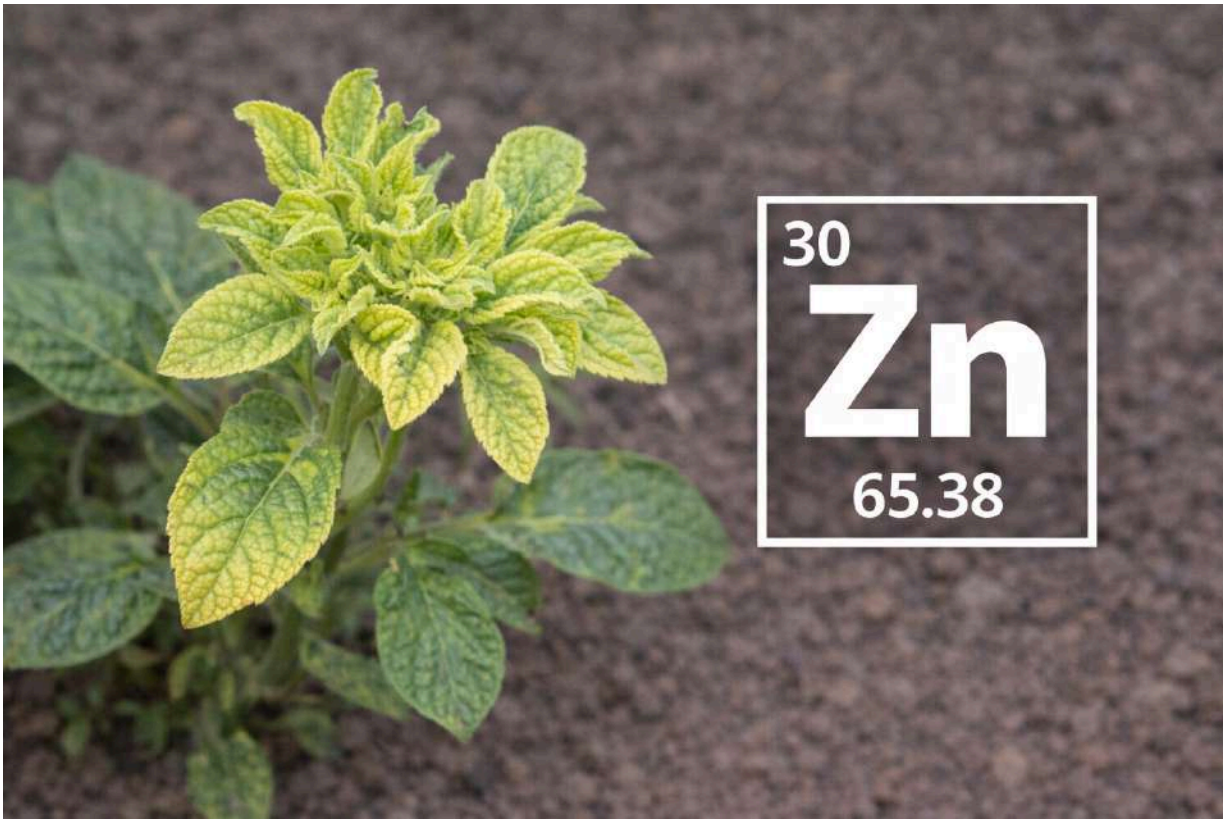
Manganese Deficiency

Manganese (Mn)

- **Leaf age affected:** New leaves
- **Visual cue:** Interveinal chlorosis with small necrotic speckles
- **Other signs:** Reduced photosynthesis
- **Arizona trigger:** Alkaline soils, over-liming
- **Correction:** Soil-applied Mn chelates; avoid excess phosphorus

Common Nutrient Deficiencies by Leaf Symptom

Zink Deficiency



Zinc (Zn)

- **Leaf age affected:** New leaves
- **Visual cue:** Small leaves, shortened internodes, rosetting
- **Other signs:** Distorted growth tips
- **Arizona trigger:** High pH, excessive phosphorus
- **Correction:** Zinc chelate or soil amendment program

Common Nutrient Deficiencies by Leaf Symptom

Calcium Deficiency

Calcium (Ca)

- **Leaf age affected:** New growth
- **Visual cue:** Deformed or cupped new leaves, tip burn
- **Other signs:** Weak cell walls, dieback
- **Arizona trigger:** Water stress (Ca present but not moving)
- **Correction:** Improve irrigation consistency and root health

💧 WATERING IN DESERT LANDSCAPES

How Much, How Deep, and Where It Matters

In Phoenix, **how much water** a tree receives is just as important as **how often**. Most tree decline is not caused by drought — it's caused by **shallow, frequent irrigation that never reaches the root zone**.

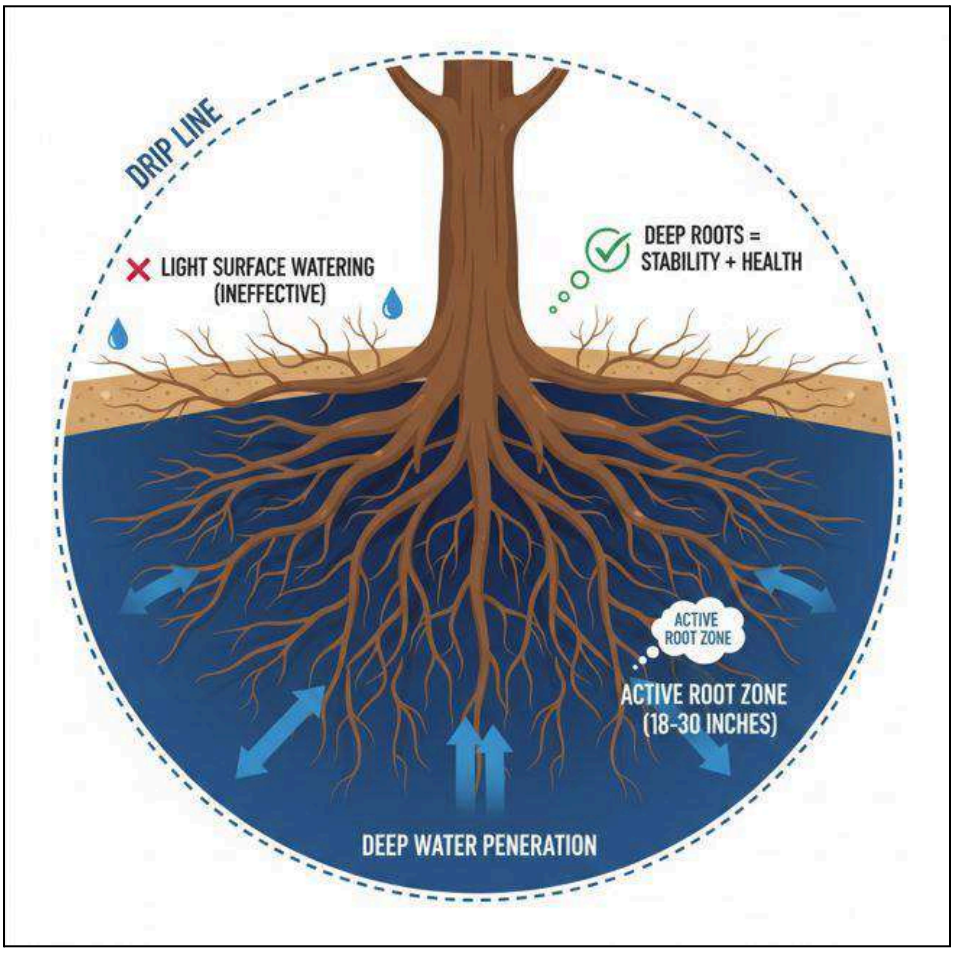
This guide explains **how to water correctly**, so roots grow deep, trees stay stable, and stress-related pests are avoided.

🌳 WHAT TREES ACTUALLY NEED

Tree roots do **not** live at the surface.

- **80–90% of active roots** are found in the **top 18–30 inches** of soil
- Water must **reach this depth** to be effective
- Light surface watering encourages **weak, shallow roots** and long-term decline

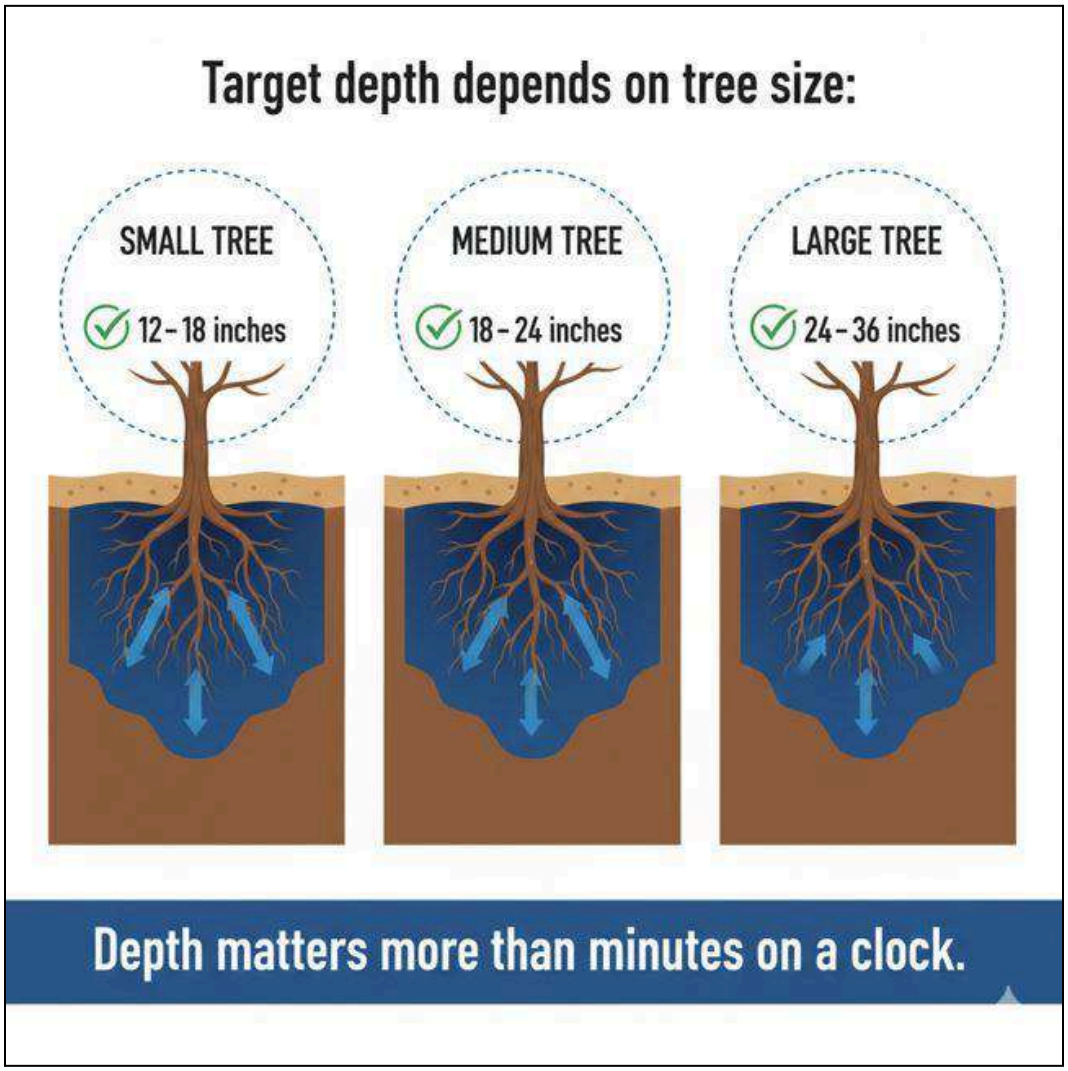
If water doesn't reach the root zone, **it doesn't count**.



📏 HOW DEEP SHOULD WATER GO?

Target depth depends on tree size:

- **Small trees:** 12–18 inches
- **Medium trees:** 18–24 inches
- **Large trees:** 24–36 inches



🚰 HOW MUCH WATER DOES THAT TAKE?

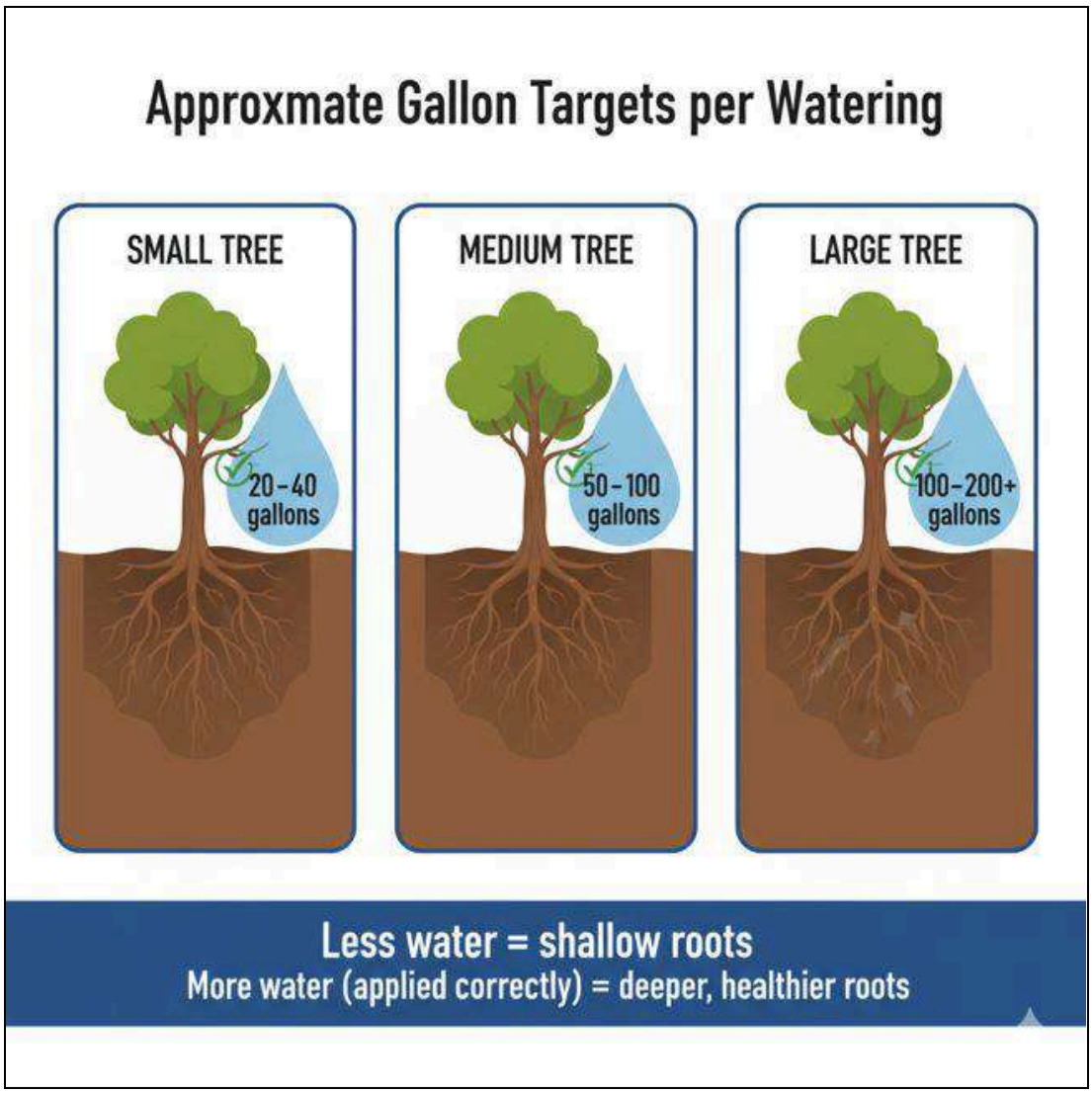
In desert soils, reaching proper depth requires **volume**, not misting.

General Rule of Thumb

- **1 gallon of water penetrates ~12 inches** of soil
  (varies by soil type, compaction, and organic matter)

Approximate Gallon Targets per Watering

- **Small tree:** 20–40 gallons
- **Medium tree:** 50–100 gallons
- **Large tree:** 100–200+ gallons



🔘 EMITTER COUNT & PLACEMENT

Emitter placement matters more than emitter size.

Best Practice

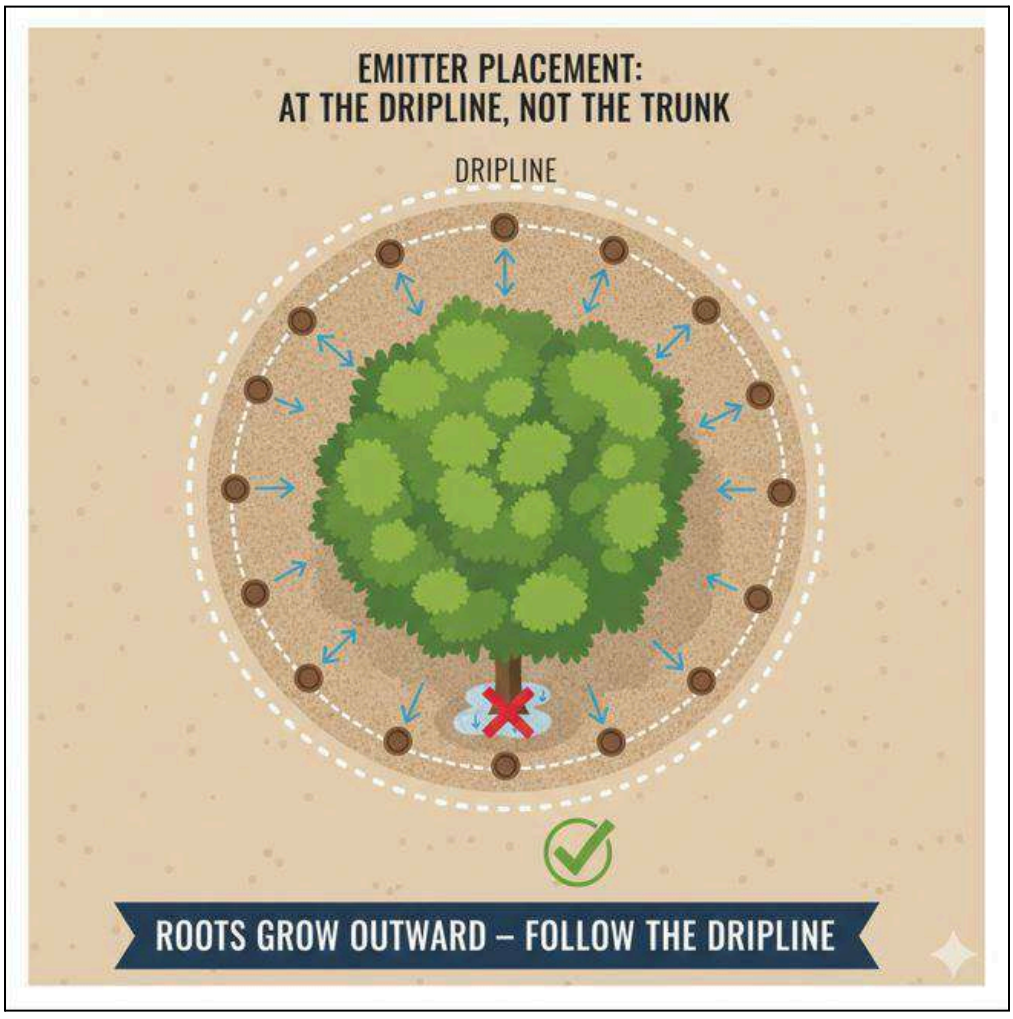
- Place emitters **at or beyond the dripline**, not at the trunk
- Roots grow **outward**, not straight down

Emitter Guidelines

- **Small trees:** 2–4 emitters
- **Medium trees:** 4–8 emitters
- **Large trees:** 8–12+ emitters

Spread emitters evenly in a **wide ring**, expanding outward as the canopy grows.

🚫 Watering only at the trunk leads to circling roots, instability, and decline.



⏱️ TIME VS. VOLUME (WHY RUNTIME LIES)

Run time alone is meaningless unless you know:

- Emitter flow rate (GPH)
- Number of emitters
- Soil infiltration rate

Example:

- 4 emitters × 2 GPH = **8 gallons/hour**
- To apply 80 gallons → **10 hours total**, ideally split into cycles

Short cycles ≠ deep watering.

⚠️ COMMON WATERING FAILURES

- Too few emitters
- Emitters never moved outward
- Turf irrigation applied to trees
- Daily or every-other-day watering
- “Looks dry” watering decisions

Most pest, disease, and nutrient issues trace back to **one of these mistakes**.

🌵 DESERT REALITY CHECK

In Phoenix:

- Overwatered trees fail just as often as underwatered trees
- Stress invites borers, scale, aphids, and fungal decline
- Fixing irrigation often resolves “pest problems” without chemicals

Water is the first diagnostic — not the last.