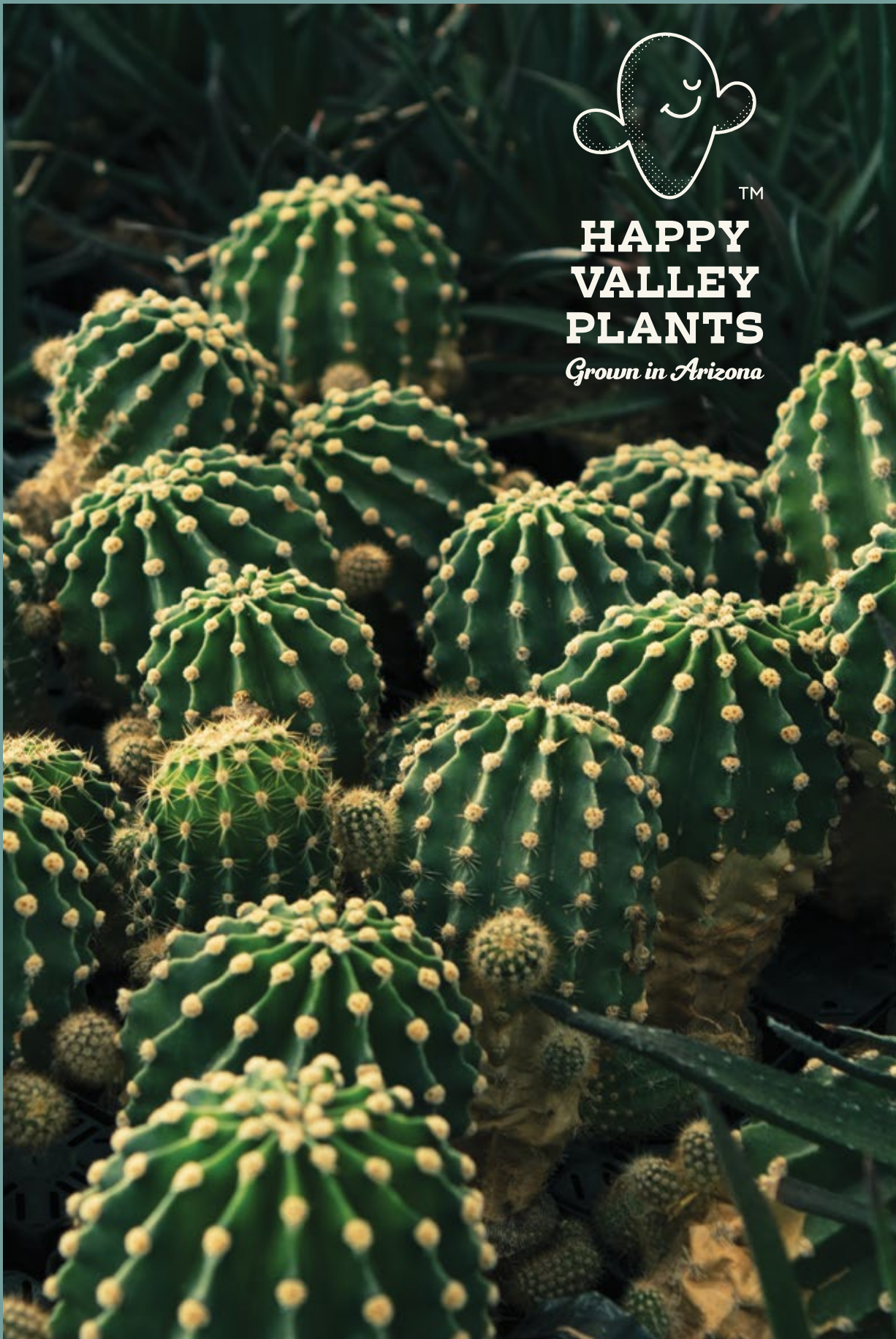


# DESERT PLANT GUIDE



**HAPPY  
VALLEY  
PLANTS**

*Grown in Arizona*





# Hi there.

If you have your hands on this book, we like you already. You share our passion for the amazing and challenging plants of the Southwest. We're happy to share our 40 years of expertise with you and be your trusted guide in transforming our Earth with more botanical beauty.

This book is our gift to you.

We're Happy Valley Plants, started by Bill and Cindy Cox out of a dusty trailer in Phoenix, Arizona in 1982. Still a family-owned business today, their son Shawn continues their honorable tradition of plant innovation, cultivation, education, and customer commitment.

Through educated research and determined tenacity, we have overcome the rigors that our desert climate has thrown our way. Now, we are proud to bring the jewels of the Southwest to the rest of the world. As a result, our production fields, facilities, and labs span more than 400 acres to meet the needs of our growing global customers.

We've got the dirt in our fingernails to prove we've learned a great deal about all the species in this book and we're still learning. However, this we know for certain - our brand mission is rock solid:

We believe genuine collaboration and partnerships are what we really grow. We're here to bring our customers' visions to life. This is why we get up in the morning and this is the soul of our people, our products, and our history.

How can we help you grow?





# How to use this guide

As our world's weather changes and water restrictions intensify, we are focusing on 5 important groups of plants that have remarkable drought tolerance. Inside this book, you'll find everything you need to make informed plant decisions about those 5 groups.



**Agave**  
page 4-15



**Aloe**  
page 17 - 21



**Euphorbia**  
page 35 - 38



**Succulent**  
page 40 - 43



**Cacti**  
page 23 - 33



*"A helpful tool in planning for any project! It is a valuable resource to use in identifying plants and substitutions, as well as knowing how big the plant or tree will be at full size!"*

Stephanie Dehart, EARTHSCAPES, Phoenix, AZ

*"This book should really be named The Desert Plant Bible"*

Nickie Velten, DTR Landscape Development

*"This is a great resource, and we use this almost daily! The photos, plant requirements & descriptions are always very helpful."*

Julie Petteys, SELM, Inc.

*"The guide y'all put out has been a great benefit, due to the mass info it has, plus the photos help tons with helping to identify the actual plant and what it looks like."*

Christian Barajas, Amelandscape



**BOTANIC NAME**

Current, recognized botanic name.



**COMMON NAME**

The most relevant or recognized garden name for a particular plant.



**SIZES**

Given in " inches, or ' feet with a typical mature size given.



**EXPOSURE**

Recommendation for the amount of sun a plant needs for optimum growth.

- Full sun 8+ hours of direct sun
- Filtered sun is direct sun filtered by leaves of trees, shrubs, patio lattice or cloth
- Partial shade is 4 hours or less of direct sun
- Shade is 2 hours or less of direct sun



**HARDINESS**

Values expressed as USDA Zone and lowest degrees in Fahrenheit that plants can sustain without significant damage or death.



**SPECIAL FEATURES**

Indicate general identification description information, notable physical traits, specific cultural requirements, flower colors, and some helpful design suggestions.

**\* PLEASE SEE THE BACK OF THE BOOK FOR ADDITIONAL IMPORTANT INFORMATION.**

- Glossary of Plant Terms
- Understanding Latin and Greek 101
- Plant Pests and how to control them
- USDA Hardiness Zones Map





Century plant

# AGAVE

For centuries the family of Agavaceae and specifically the genus of Agave have been prized by succulent collectors, landscape professionals and fine gardeners. Agaves are commonly referred to as Century Plants because they generally require many years of growth to become mature enough to flower. In the genus of Agave can be found hundreds of different species, varieties and hybrids of monocot plants that typically form basal rosettes of thick, succulent leaves. With a dizzying array of varying sizes, shapes and colors you will find a type of Agave that is right for any landscape project or garden design.



## AGAVE AMERICANA CENTURY PLANT

5'-6' high x 6'-8' wide ☀ Full sun 🌡 USDA Zone 8 / 15F

An iconic classic. Its name is derived from how long they were thought to live before blooming, although a century is an exaggeration. Sizable teeth along the leaf margins and terminal spine adorn wide blue-green to gray-green leaves. Low maintenance, low water requirements, give this majestic beauty some space to grow and become a focal point.



## AGAVE AMERICANA V. MARGINATA VARIEGATED CENTURY PLANT

5'-6' high x 6'-8' wide ☀ Full sun / Partial shade 🌡 USDA Zone 8 / 15F

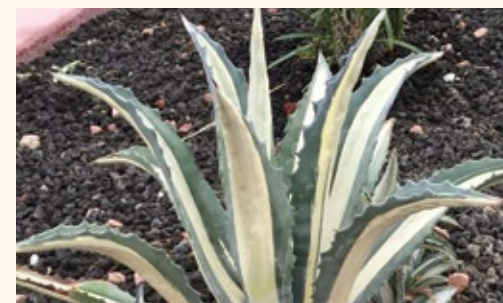
Vertical stripes or ribbons of bright golden color along the edges of otherwise green foliage is what identifies this plant from its cousin the Century Plant. Very drought tolerant with minimal maintenance requirements. We suggest you locate this plant in a landscape where it can be backlit by morning or afternoon sun to accentuate its golden highlights.



## AGAVE A. X. 'CORNELIUS' QUASIMODO AGAVE

2'-3' high x 2'-4' wide ☀ Full sun-Partial shade 🌡 USDA Zone 9 / 25F

Quasimodo is distinctively colored with more gold than green and boasts the unusual feature of wavy or undulating leaf edges. Staying fairly small but often having a clumping growth habit, this plant can be utilized in many landscape applications. This low maintenance and drought tolerant species will win the attention of all your neighbors.



## AGAVE A. MEDIO-PICTA 'ALBA' MEDIO PICTA ALBA

3'-4' high x 4'-6' wide ☀ Full sun / Partial shade 🌡 USDA Zone 8 / 15F

The common name refers to its distinctive creamy white, mid-leaf stripe which is surrounded by a luscious blue-gray color. This palette will illuminate any area you plant it in. Medium to small teeth run up its edges ending in a recurved black terminal spine. Reflected heat may scorch its white mid stripe so avoid planting this agave too close to a west facing wall.



## AGAVE A. MEDIO-PICTA 'AUREA' CENTURY AGAVE

5- 6' high x 5-6' wide ☀ Full sun / Partial shade 🌡 USDA Zone 9 / 25F

Slightly smaller than its American cousin, the 'Aurea' forms striking rosettes of thick, spiny-edged, gray green leaves with a bright yellow central stripe. A classic statement on a hillside or in a rock garden, this tough performer loves full sun, but will tolerate light shade better than other agaves. Extremely heat and drought tolerant, but protect from freezing temps.





**AGAVE ANGUSTIFOLIA V. MARGINATA**  
**NARROW LEAF AGAVE**

3'-4' high x 3'-4' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

This tropical appearing agave forms a symmetrically round shape that is attractive in mass plantings. 'Marginata' refers to the bright white edges or margins of its leaves. Careful, the small recurved teeth on its margins can make this plant command respect when working around it. Easy to grow, needing little to no care and very drought tolerant when mature.



**AGAVE ATTENUATA FOX TAIL AGAVE**

3'-4' high x 3'-4' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

A native to Mexico, the Attenuata has a unique softness thanks to its lack of teeth and terminal spines. Its ample rosettes of silvery pale green leaves will gradually open like a flower. It got the common name for producing an extremely tall greenish-yellow flower that will reach for the skies then to the ground to deposit seed pods, then arch back up like a Fox Tail.



**AGAVE X. 'BLUE EMBER' BLUE EMBER AGAVE**

3' high x 2' wide ☀️ Full sun 🌡️ USDA Zone 9 / 25F

This spectacular hybrid was bred in California in 2009 for uniformity and consistency in the agave family, but still a rare find. Striking blue foliage with red-orange edges that taper down to sharp black points. Drought tolerant, the Blue Ember Agave is cold hardy to freezing as well as heat loving. Plant royal opulence in your landscape or container.



**AGAVE X. 'BLUE FLAME' BLUE FLAME AGAVE**

1.5'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

Blue Flame Agave is named for its soft, waxy blue-green, smooth-edged, vertical growing leaves. Low maintenance and drought tolerant in the low desert when mature, Blue Flame will appreciate a bit of regular watering when first planted. It's happy as an under planting beneath trees or large shrubs. Blue Flame can, with time, form a large clumping mass.



**AGAVE X. 'BLUE GLOW' BLUE GLOW AGAVE**

1.5'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 20F

The Blue Glow Agave is a hybrid between A. attenuata x A. ocahui. This fabulous show-stopper grows small and has a perfectly round shape and dark blue-green leaves with a short, red terminal spine. It also has a thin golden/red leaf margin that gives this plant a heavenly aura when back-lit with natural sunlight in late afternoon or early morning.



**AGAVE BOVICORNUTA COW'S HORN AGAVE**

1.5'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 20F

One word describes this striking agave - bold. Distinctively large reddish colored teeth along its leaf margins pop out dramatically on 5 to 6 inch wide army-green, glossy leaves. Cow's Horn Agave grows happily and slowly, in almost any exposure, any growing condition with well-drained soil. Because of its armament, avoid planting in high traffic areas.



**AGAVE BRACTEOSA SQUID AGAVE**

1'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

This unique grower forms large masses of plants hanging off the edge of limestone cliffs in its native Northern Mexico. Adaptable to many growing conditions, full sun or nearly full shade. Careful cleaning up and raking around Squid Agave - its leaves are fragile. Also, more tolerant of water than many Agaves as long as they are given excellent drainage.



**AGAVE CELSII 'NOVA' CELSII NOVA AGAVE**

1'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

This classic differs from the straight species by being bright blue in color, with stiffer marginal teeth and terminal spine. They grow as a solitary plant rather than clump forming. Nova is a very agreeable and attractive agave suitable for almost any garden or landscape. Clean and refined, it's the designers choice for formal or modern landscape designs.



**AGAVE COLORATA MESCAL CENIZA AGAVE**

1'-3' high x 2'-4' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

This lady has gray, rough textured wide leaves armed with large marginal teeth and a sharp terminal spine. It forms a solitary plant shaped like a desert rose. In maturity, the Mescal Ceniza has the peculiar habit to 'lay' over. Slouchy posture but a noble personality! Easy to grow because they are so tough. Bring on the high heat, cold, sun, and drought.



**AGAVE CHAZAROII CHAZAROII AGAVE**

3'-5' high x 4'-7' wide ☀️ Full sun / partial shade 🌡️ USDA Zone 9 / 30F

The Chazaroi was discovered by accident near Tequila, Jalisco Mexico in 2007. This sun-loving agave has dark green to bluish gray leaves that are outlined with brownish unarmed rims, nearly spineless when mature. It opens to a wide wing span, creating unequaled structure and form. Drought tolerant, but prefers a little moisture.





**AGAVE DESMETTIANA TROPICAL AGAVE**

2'-3' high x 3'-4' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

“Tropical” describes this luscious looking agave perfectly. Clean, vertical growing dark green glossy leaves make them easy to under plant with flowering ground covers. They do have a terminal spine on each leaf but Tropical Agave is at home around pools and public spaces. Also easy to grow and tolerant of more water with soil that has good drainage.



**AGAVE DESMETTIANA V. MARGINATA TROPICAL AGAVE VARIEGATED**

2'-3' high x 3'-4' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

Variiegated Tropical Agave has the same sexy curvature to the leaves as the Tropical Agave but adorned with bright golden color on the edges of each leaf. They also have a smooth edge and dark reddish brown terminal spine. Plant one in a single large vessel for dominant accent feature or plant them in mass to create a low maintenance minimalistic effect.



**AGAVE FERDINAND-REGIS KING FERDINAND AGAVE**

1'-2' high x 1'-2' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

King Ferdinand is made up of short, thick triangulated leaves that have bright white striping on the edges that leave a criss-crossed pattern on the tops and backs of each leaf. The leaves are longer than Queen Victoria and have a short but sharp, stout terminal spine that is very dark in color. Give this low maintenance royalty good drainage and little water.



**AGAVE FILAMENTOSA THREAD-LEAF AGAVE**

1'-2' high x 1'-2' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

Dark green leaves tipped with a sharp terminal spine form a very tight looking symmetrical basketball-sized plant. As it grows, the edges of the leaves peel back to leave behind a multitude of interesting threads that make this romantic plant appear fuzzy. The Thread-Leaf grows as a solitary plant and requires minimal maintenance or water to be happy.



**AGAVE FILIFERA FILIFERA AGAVE**

1'-2' high x 1'-2' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

Dark green, narrow, lance-shaped leaves with slight white bud imprinting form a dense basal rosette shaped plant to about 18 inches across. This Agave also grows leaf margins forming threads along its edges. Although it is possible for this plant to grow offsets or pups it is not very common to do so. Agave filifera also makes a design statement in containers.



**AGAVE FRANZOSINII FRANZOSINII AGAVE**

6'-8' high x 8'-10' wide ☀️ Full sun 🌡️ USDA Zone 9 / 20F

This epic agave has white-gray leaves up to 16 inches wide at the center that fold gracefully as it matures. Agave franzosinii have strikingly thick, dark, shark-like, triangular teeth on its margins and can be easily maintained as a solitary plant because pups will pop up from rhizomes several feet from the original plant. Very drought tolerant.



**AGAVE GEMINIFLORA TWIN FLOWERED AGAVE**

2'-3' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

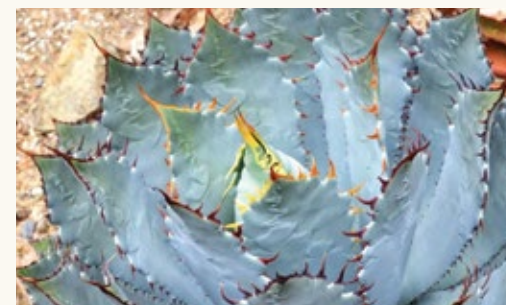
With its ease of growing, adaptability and dependability, Twin Flowered Agave is considered the perfectly flexible agave for any landscape condition or design. If its cultural attributes aren't enough to win you over, its stunning physical attributes of narrow, dark green, perfectly straight leaves that form into a beautifully symmetrical sphere certainly will.



**AGAVE GHIESBRECHTII GHIESBRECHTII AGAVE**

1'-2' high x 2'-3' wide ☀️ Full sun 🌡️ USDA Zone 9 / 20F

This beauty is identified by its slightly guttered 3-4 inch wide, olive-green, straight leaves with pale gray, recurved teeth on the margins. Tight growing, it will often form an attractive bud imprint on its leaves as well. Agave ghiesbreghtii is a small to medium growing plant that will form fairly impenetrable colonies, perfect if you need an attractive physical barrier.



**AGAVE GUADALAJARANA GUADALAJARANA AGAVE**

1'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 30F

A bright blue-gray desert rose with very enticing reddish brown marginal teeth. These features have turned this little agave into a head-turning celebrity. Forming a small, solitary rosette, Guadalupe Agave is a great choice for patio container culture, or creating a distinctive focal point by planting a few of them under some beautiful medium sized desert trees.



**AGAVE GYPSOPHILA GYPSUM AGAVE**

2'-3' high x 2'-3' wide ☀️ Full sun / Partial sun 🌡️ USDA Zone 10 / 30F

Curly, undulating waves cascade along the leaf edges and fold inward to form some of the deepest guttering of any of the blue-gray agaves. Gypsum Agave forms a solitary plant of small to medium size that succeeds in containers as well as landscapes. This agave gives shape/color contrast under Mesquite or our Sonoran Emerald™ Palo Verde trees.





**AGAVE HAVARDIANA**  
HARVARD'S CENTURY PLANT

2'-3' high x 3'-4' wide ☀️ Full sun / Partial sun 🌿 USDA Zone 5 / -15F

Rising majestically out of the prairies of West Texas, this agave is as tough and rugged as the lone star state. Broad based gray-green leaves have large black curved teeth on its margins and are tipped with sharp spines. Low maintenance, drought and cold tolerant, this is one of the most reliable varieties for high elevation gardens. Plant in well-draining soil.



**AGAVE HORRIDA** HORRIDA AGAVE, MEXCALMETL

1.5' - 2' high x 2'-3' wide ☀️ Sun 🌿 USDA Zone 9 / 25F

A modest-sized agave with a dynamically symmetrical shape and growth habit makes Agave Horrida stand out. Mexcalmetl dark green leaves are dagger shaped with many sharp, evenly spaced, light-gray marginal teeth. This agave grows well in full sun but tolerates filtered shade, too. This attractively tough guy should be planted in well-drained soil.



**AGAVE LECHUGUILLA** LECHUGUILLA AGAVE

1'-2' high x 1'-2' wide ☀️ Full sun 🌿 USDA Zone 8 / 15F

Agave lechuguilla grows throughout the Chihuahuan Desert from Oak-Juniper covered hillsides to low Creosote-Saltbush basins to have the largest geographic distribution of any agave. It has wicked spines atop olive green colored, narrow leaves that grow in a spreading and clumping form. It is virtually indestructible in sunny, well-drained soil.



**AGAVE LOPHANTHA** THORN-CRESTED AGAVE

1.5' - 2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌿 USDA Zone 8 / 15F

Similar to Lechuguilla, Agave lophantha has slightly wider, flatter leaves that are bright green with a chartreuse colored center stripe. Its leaves are armed with reddish colored teeth along its margins and have a short stiff terminal spine. Each 'mother' plant will die after flowering but because of her propensity to clump and spread you won't even miss her!



**AGAVE MACROACANTHA** BLACK-SPINED AGAVE

1.5' - 2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌿 USDA Zone 8 / 15F

A black and blue beauty. Bright blue short leaves, small jet black teeth along the margins and a black terminal spine. Black-spined Agave grows in a symmetrical ball-shape that will form pups of similar rosettes around its base to form a stunning clump. Planting it in our regional rocky landscape will make it feel like it is at home in its native Mexican state of Oaxaca.



**AGAVE MARMORATA** MARMORATA AGAVE

4'-5' high x 4'-6' wide ☀️ Full sun / Partial shade 🌿 USDA Zone 9 / 25F

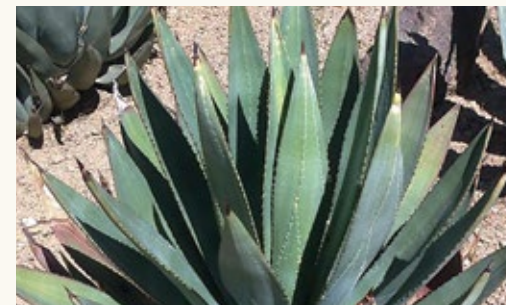
Powdery-gray banding across its gray-green leaves may resemble growth rings but don't reflect age at all. Marmorata Agave leaves are roughly textured with long, deep gutters. Sizeable teeth on large mamalate protrusions grow along the edges of its leaves. They're solitary growers, so are great in containers or mass plant them for dramatic effect.



**AGAVE MONTANA** MOUNTAIN AGAVE

3-4' high x 4-5' wide ☀️ Full sun / partial shade 🌿 USDA Zone 9 / 25F

The montana has a densely-packed rosette of thick spring-green leaves that grow upright. Terracotta red teeth along the margins and a thick terminal spine will also distinctly imprint the lower leaf surfaces. A solitary grower, it is magnificent in landscape or containers. Drought, heat, cold, poor soil tolerant and virtually disease free, this agave wins.



**AGAVE MURPHEYI** MURPHEY'S AGAVE

2'-3' high x 2'-3' wide ☀️ Full sun / Partial shade 🌿 USDA Zone 8 / 10F

This is Murphey's law: tough, adaptable and easy to grow. This Agave is a darker green-gray color with evenly spaced sharp marginal teeth on its strap-like 3 inch wide leaves. It will form a spherical shape and develop multiple offsets as it matures. Its wide, natural distribution gives it the genetic adaptations to be happy in many landscape situations.



**AGAVE MURPHEYI V. MARGINATA**  
VARIEGATED MURPHEY'S AGAVE

2'-3' high x 2'-3' wide ☀️ Full sun / Partial shade 🌿 USDA Zone 8 / 15F

It's all in the family. As tolerant and easy to grow as its straight species namesake, but with painted ribbons of bright yellow about halfway across its green-gray leaves. This variegated form of Agave Murpheyi could be a bright spot of color under your favorite Mesquite tree or stand out and up to the tough life of living in a street parkway planting.



**AGAVE NEOMEXICANA** NEW MEXICO AGAVE

1.5'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌿 USDA Zone 5 / -20F

With striking steel-blue to gray leaves that are deeply guttered with sharp black teeth on the edges, New Mexico Agave has a dramatic desert rose form that radiates cool. It is one of the most cold hardy varieties commercially available. Stunning examples of this beautiful Parryi-type Agave have been growing at the Denver Botanic Garden for years.





**AGAVE OCAHUI OCAHUI AGAVE**

1.5'-2' high x 1.5'-2' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

The species' pronunciation is "Oh-Cow-ee". This strikingly symmetrical growing agave has rich green glossy leaves about an inch wide. They have milk chocolate colored terminal spines and bright white margins that give it a distinctively formal look. Mass plantings of Agave Ocahui will create a dramatic yet minimalistic, modern look in any light.



**AGAVE OVATIFOLIA WHALE'S TONGUE AGAVE**

3'-5' high x 4'-6' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

Whale's Tongue Agave forms wide, deeply guttered leaves that often exhibit wavy linear undulations that will make you swear you're looking right into Shamu's mouth! This highly desirable agave occurs naturally at elevations from 3,700 to 7,000 feet in the mountains of northern Nuevo Leon in northeastern Mexico. This slow-growing crowd-pleaser captivates.



**AGAVE PARRASANA DESERT ROSE AGAVE**

2'-3' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 7 / 10F

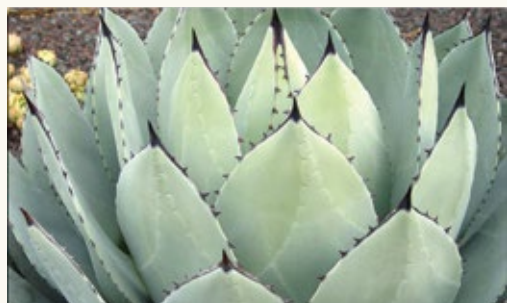
A tight solitary rosette shape like no other, Agave Parrasana have gray colored leaves that are extremely wide at the base and taper to a grayish brown terminal spine. The marginal teeth on this beauty leave very intricate looking bud imprints on each leaf. Grown from seed, they have some fantastic variation. Tough, drought tolerant, and very cold hardy.



**AGAVE PARRYI V. PARRYI PARRY'S AGAVE**

1'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 5 / -20F

Native to the deserts of the Southwest, Parry's Agave typically grows as an understory plant to Oaks, Junipers and Pines. They appreciate well-draining soil, heat and neglect. Gray-green leaves have fairly small but sharp marginal teeth and long darkish colored terminal spines. Easy to grow, and extreme cold hardiness make Agave parryi highly coveted.



**AGAVE PARRYII V. HUACHUCENSIS HUACHUCA AGAVE**

1'-2' high x 1'-2' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 6 / 10F

Named for where it hails from, Huachuca Mountains of Southeastern Arizona, this Parryi variety has gray-green leaves and commonly forms offsets. Its leaves are narrow at the base, wide in the middle, and typically blunter toward the terminal spine than Agave parryi v. parryi. Huachuca Agave will work well in containers and in mass plantings.



**AGAVE PARRYII V. TRUNCATA ARTICHOKE AGAVE**

2'-3' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 7 / 10F

Artichoke Agave is named because it truly resembles the famous vegetable. Its leaves have a striking powder-blue coloration. They are wide and tight, blunt topped with a black terminal spine that have a distinctively sexy curve to them. Agave parryi v. truncata have long been a favorite of landscape architects and designers because of their size, form and color.



**AGAVE POTOTORUM BUTTERFLY AGAVE**

1.5'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ SDA Zone 10 / 32F

Butterfly Agave has bright blue-gray leaves that gracefully curve backward toward their tips to form somewhat of an open 'flower' effect. Many sharp gray teeth adorn the edges of these leaves that are tipped with dramatic 2 inch long terminal spines. Also from Oaxaca, Mexico, these agaves are adaptive, sturdy and tough but have a unique, dainty look.



**AGAVE PYGMAEA PYGMY AGAVE**

1' high x 1'-1.5' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 10 / 32F

As the name suggests, this is a small and darn cute Agave with distinctive white-green leaves edged with dark reddish teeth. Plant Pygmy Agave with other larger succulents or ground covers on eastern exposure or under desert shade trees. Native to the southern state of Chiapas, Mexico, Pygmy Agave will appreciate a very well-draining soil.



**AGAVE SALMIANA GREEN GIANT AGAVE**

4'-6' high x 6'x 10' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 20F

The glossy dark green leaves of the magnificent Agave Salmiana can grow 7ft long and 1ft wide, so give it some space. Large marginal teeth and a 2 inch long terminal spine adds to its dramatic appearance. Growing into a large specimen will not take long. Green Giant will accept and utilize more water if it gets it, with good drainage.



**AGAVE SALMIANA V. FEROX AGAVE SALMIANA V. FEROX**

3'-4' high x 4'-5' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 7 / 10F

Found by Yucca Do Nursery in the Sierra Chaquita mountains north of Ciudad Victoria, Mexico, this agave is similar in appearance to the straight species. It has dark green glossy leaves and sharp marginal teeth, ending in a long terminal spine, but is smaller in size and is more cold hardy. It has the same cultural requirements as A. Salmiana.





**AGAVE SALMIANA V. MARGINATA**  
**VARIEGATED AGAVE SALMIANA**

4-6' high x 4-6' wide ☀️ Full sun 🌡️ USDA Zone 8 / 25F

Agave Salmiana 'variegata' is the dramatically painted version of its bigger brother. Large, open rosette with leaves to 3 ft long and 15 inches wide, rigid, fleshy, glossy dark-green with bright yellow banding. Hooked black-brown marginal spines and a long terminal spine. Mature plants will shoot up a yellow candelabra flower that attracts birds and bees.



**AGAVE X. 'SHARKSKIN' SHARKSKIN AGAVE**

1'-2' high x 1'-2' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 20F

This striking plant, a hybrid cross between A. ferdinandi-regis x A. scabra, became labeled 'Sharkskin' because of its stealth texture and color. Thick, olive green triangular shaped leaves are smooth and black-edged, but are armed with a short sharp spine. Sharkskin Agave grows slow, and requires little to no water. The quintessential container agave specimen.



**AGAVE SISALANA SISAL HEMP AGAVE**

3'-6' high x 6'-12' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 10 / 32F

Long, fleshy, dark green leaves approximately 3 inches wide, grow from the base with a very vertical aspect. It will, however, form an open rosette with leaves that grow nearly horizontal as it matures to reach the incredible size of 12 feet wide tip to tip. Sisal is fairly fast growing and will accept more water with good drainage but needs protection from frost.



**AGAVE TEQUILIANA TEQUILA BLUE AGAVE**

4'-5' high x 4'-5' wide ☀️ Full sun 🌡️ USDA Zone 10 / 32F

Agave tequilana is used as the base ingredient of the distilled spirit Tequila. A fast growing agave with 3 to 4 foot long narrow leaves of a beautiful shade of blue gray with a brown sharp terminal spine and margin teeth. It sends out pups near the plant's base and several feet away so give this plant some room. Irrigate very little and protect from freezing temperatures.



**AGAVE TITANOTA CHALK AGAVE**

1'-2' high x 1.5'-2' wide ☀️ Full sun 🌡️ USDA Zone 7 / 10F

Looking more like a Yucca than a Century Plant, this agave has narrow, stiff leaves with olive-green to green-gray coloration with a chalky haze in some conditions. The short wickedly sharp terminal spine at the end of the inflexible leaves command your careful respect while working around this plant. The titanota is easy to grow, very adaptable and tough.



**AGAVE FELIPE OTERO TITANOTA AGAVE**

31'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

Easily identified by its wide, white margins that seem to encircle the entire leaf, accenting its long, wickedly twisted sharp teeth. The leaves are powdery gray-green, narrow at the base that widen out dramatically to 5-6 inches. Titanota Agave is a small individual plant but will form 'pups' freely to form a larger clump. Impactful visual in low bowl containers. The titanota is also available in artfully named varieties 'Black & Blue' 1 and 'White Ice' 2.



**AGAVE VICTORIAE-REGINAE**  
**QUEEN VICTORIA AGAVE**

0.5'-1' high x 1'-2' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

Agave victoriae-reginae is truly the Queen of the Agaves. Ultimately forming into a regal ball shape, Queen Victoria has short, thick, dark green triangular shaped leaves with gray to black terminal spine. White leaf margins leave criss cross patterned markings on the top and bottom of its leaves. This lady entices people into becoming fanatical agave collectors.



**AGAVE VILMORINIANA OCTOPUS AGAVE**

3'-4' high x 3'-5' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

One of the most popular agaves because of its adaptability, size and pedestrian-friendly foliage, Octopus Agave has a nice even toned olive green coloration that compliments many other plants. Long, guttered leaves twist and bend in different directions for added interest and attention. Use it singularly or in mass. Agave Vilmoriniana adapts well.



**AGAVE WEBERI WEBER'S AGAVE**

4'-6' high x 6'-8' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

Seeing a full grown, healthy Weber's Agave will make agave aficionados drool. They have bright-silvery blue foliage that can grow up to a massive 6 feet long and 8 inches wide with few to no teeth on the edges. Weber's Agave doesn't mind hot temperatures or humidity but when immature will scald from reflected heat. Great contrast for any landscape.



**AGAVE WEBERI 'ARIZONA STAR'**  
**ARIZONA STAR AGAVE**

3'-4' high x 4'-6' wide ☀️ Filtered sun / Partial shade 🌡️ USDA Zone 8 / 20

The center of the leaves of the Arizona Star Agave have the typically silver-blue coloration of the straight species but 'Arizona Star' commands attention with dramatically wide buttery yellow stripes on the edges. Luminous and sophisticated, 'Arizona Star' is an extraordinary choice for containers around the pool, premium commercial projects.





*Aloe*  
**A LO E**

Aloe vera is one of the most well known and recognizable plants in the entire world. People in any country, any language, immediately associate this name with medicinal uses and properties. The long ethnobotanical history of the aloe is extraordinary, but let's not overlook their dynamic foliage, forms and beautiful flowers. From small, basal rosette plants perfect for containers or rock gardens to large, arborescent types best suited for bold accent plantings, we grow and offer an evolving plethora of these unique plants. Read on and find descriptions, photos and cultural requirements to help you identify and choose the perfect plant for your project.





**ALOE BARBADENSIS ALOE VERA**

☞ 2'-3' high x 2'-3' wide ☀ Full sun / Partial shade 🌿 USDA Zone 8 / 15F

This is the aloe that defines all others. Aloe Barbadensis forms a clump of stemless rosettes of fleshy, gray-green leaves. Popular because they are easy to grow, require little maintenance and are very drought tolerant. The variable colors bloom on attractive racemes of up to 3' tall and have tubular yellow (the medicinal aloe) or orange 1" flowers.



**ALOE BREVIFOLIA SHORT LEAF ALOE**

☞ 0.5'-1' high x 1'-2' wide ☀ Full sun / Partial shade 🌿 USDA Zone 9 / 25F

"Cute!" some people say, when they see this little spiny aloe. Aloe brevifolia has distinctively short, thick triangular blue-green leaves that have whitish colored spines along the leaf edges and undersides. Single, 2' stalks will shoot up from the middle in late fall to winter producing pale red/orange 1" flowers that attract hummingbirds.



**ALOE X 'BLUE ELF' BLUE ELF ALOE**

☞ 1'-1.5' high x 1.5'-2' wide ☀ Full sun / Partial shade 🌿 USDA Zone 8 / 20F

People admire this aloe hybrid for its blue-gray, tight up-curved leaves and consistent spherical shape. It stays low and spreads at a slow rate. In winter/early spring it sends up unbranched bloom stalks about 1' above the spiny foliage with eye-catching, dark burnt-orange tubular flowers. Give it well-drained soil with moderate water during the hot times.



**ALOE DICHOTAMA QUIVER TREE**

☞ 10'-30' high x 3'-8' wide ☀ Full sun / Partial shade 🌿 USDA Zone 10 / 32F

This lofty tree aloe grows slowly, forming leafy heads of multi-forked branches on trunks with patterns of exfoliating bark. Unique lance shaped leaves are 2" wide, 1.5' long and its margins are armed with small, yellow-brown teeth. Flowers are canary-yellow, 1" tubular shaped on panicles 3' long. Needs well-drained soil. Don't overwater.



**ALOE FEROX CAPE ALOE**

☞ 6'-8' high x 3'-4' wide ☀ Full sun / Partial shade 🌿 USDA Zone 9 / 20F

Cape Aloe will grow on beefy stalks and are topped with a dense rosette of thick, fleshy lanceolate leaves, which are olive-green color and armed with reddish-brown, sharp teeth. Stunning, multi-branched panicles 4' tall, densely covered with persimmon orange tubular flowers that bloom from fall into winter. Plant in mass for drama or singularly in well-drained soil.



**ALOE X 'GRASSY LASSIE' GRASSY LASSIE ALOE**

☞ 0.5'-1' high x 1'-2' wide ☀ Full sun / Partial shade 🌿 USDA Zone 9 / 25F

This aloe has narrow, grass-like leaves with small teeth on its edges. It has a strong colonizing growth habit, so perfect for mass plantings where it can be confined such as in median islands. It has a lovely bronze color when grown in the sun, or greener in shade. 2' tall unbranched flower stalks will be covered with soft orange tubular flowers for much of the year.



**ALOE X 'HERCULES' HERCULES TREE ALOE**

☞ 25'-40' high x 15'-20' wide ☀ Full sun / Partial shade 🌿 USDA Zone 9 / 20F

This arborescent aloe is a hybrid between A. dichotoma and A. barberae. A mature Hercules will become a living sculpture of large rosettes of long, widely-triangular dark green leaves atop thick barked trunks. This aloe has a commanding size and bodacious form and a bonus of salmon-colored tubular flowers. Plant in well-drained soil and do not overwater.



**ALOE MARLOTHII MOUNTAIN ALOE**

☞ 6'-15' high x 5'-10' wide ☀ Full sun / Partial shade 🌿 USDA Zone 9 / 20F

Mountain Aloe is native to Southeastern Africa. Sharp red-brown teeth along the leaf margins, undersides and surfaces define its persona. Blue-green, long leaves are wide at their base and grow in a whorled pattern, leaving a natural skirt of old, dried leaves around the trunk. Orange to yellow 2" flowers will blossom from candelabra-formed stalks in fall/winter.



**ALOE NOBILIS GOLDEN-TOOTH ALOE**

☞ 1'-2' high x 1'-3' wide ☀ Full sun / Partial shade 🌿 USDA Zone 9 / 20F

Golden-Tooth Aloe is a wonderful mound forming aloe that has short, bright green triangular leaves armed in tiny but sharp, golden colored teeth. As it matures it will sprout offshoots in a tight arrangement to a height of about 1' tall. Multiple, dense spikes of cherry red flowers that are nearly 2" long will grow above the mound of foliage from spring into summer.

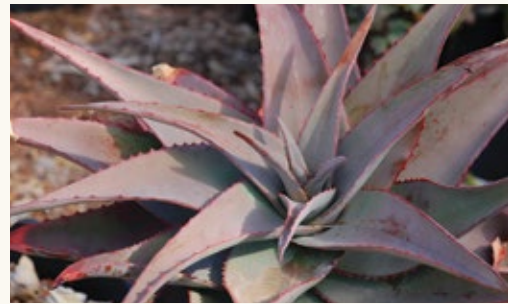


**ALOE X 'ROOIKAPPIE' LITTLE RED RIDING HOOD 'ROOIKAPPIE'**

☞ 0.5'-1' high x 3'-6' wide (clumping) 🌿 USDA Zone 9 / 25F

This clump-forming aloe heroine survives the threatening heat of the low desert. Each bright green triangular leaf spotted with lighter dashes tapers nicely and has widely spaced teeth on the edges. Adult clumps are free-blooming throughout the year and will produce a stalk with a red-hot poker-looking cluster of burnished-red flowers. A storybook finish.





**ALOE RUBRIVIOLEACEA ARABIAN ALOE**

2-3' high x 4-6' wide ☀ Full sun 🌡 USDA Zone 8 / 25F

Originally from Yemen, the Arabian Aloe is characterized by 2' wide rosettes of thick leaves that emerge from heavy stems and magically gradate in color from blue-green to violet, like a sunset. Over time these stems elongate, while new shoots emerge at their base, forming sprawling clumps. Dense spires of vermillion red flowers are produced in winter atop stalks.



**ALOE SAFARI SAFARI ALOE**

1-1.5' high x 3-3.5' wide ☀ Full / Partial sun 🌡 USDA Zone 9 / 25F

A compact, heat and drought tolerant, repeat blooming aloe with big, showy spikes of two-toned orange-pink and cream flower clusters reminiscent of a tropical sunrise. Succulent green leaves with soft teeth form an upright, spreading clump. A carefree rock garden accent. Stunning when mass planted as ground cover. Flower varieties: Orange, Rose and Sunrise.



**ALOE SAPONARIA TIGER ALOE, SOAP ALOE**

1'-2' high x 1'-2' wide ☀ Full sun / Partial shade 🌡 USDA Zone 9 / 25F

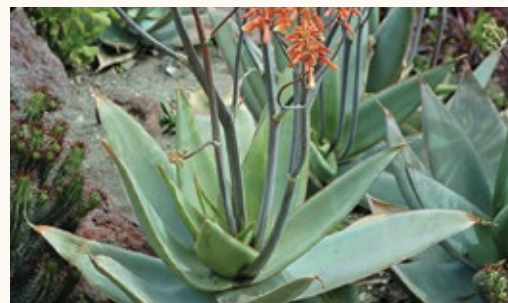
Dark green, succulent triangular leaves have long, sharp teeth and light colored horizontal tiger stripe patterns across. This aloe will form a contiguous mat. 2' tall, branched flower panicles are topped with clusters of coral colored tubular flowers from fall into winter. Foliage may acquire a burnished, coppery hue during periods of drought or cold temps.



**ALOE SINKATANA SINKATANA ALOE**

1'-2' high x 2'-3' wide ☀ Full sun / Partial shade 🌡 USDA Zone 9 / 25F

Depending on growing conditions, Sinkatana Aloe may have green or purple-rose coloration to its slightly spotted leaves. They form a small colony of plants made up of basal rosettes that have many offshoots. Capitulate type clusters of canary-yellow to orange blooms develop on stalks about 1' above the foliage. This aloe is adaptable and easy to grow.



**ALOE STRIATA CORAL ALOE**

2'-3' high x 2'-3' wide ☀ Filtered sun / Partial shade 🌡 USDA Zone 9 / 25F

The wide, pale-green leaves of Aloe Striata have brownish colored lines running from its base to tip. This species will form offshoots to become a clustered full-grown plant. Its fleshy leaves have toothless leaf margins and are often tinged pink. From winter to spring, stalks hold striking corymbose panicles of 2" coral-red tubular flowers above its foliage.



**ALOE X 'TOPAZ' TOPAZ ALOE**

1'-2' high x 2'-3' wide (clumping) ☀ Filtered sun / Partial shade 🌡 USDA Zone 9 / 30F

Topaz Aloe is a blooming machine from late summer to winter in the low desert. Long, pointed bloom spikes of deep orange to red colors will form on single stalks about a foot above the foliage. Its bright green grassy-type leaves are tropical looking and soft. This softer foliage appreciates more water and maintenance care to look vibrant.



**ALOE VARIEGATA TIGER ALOE**

0.5'-1' high x 1'-2' wide ☀ Full sun / Partial shade 🌡 USDA Zone 9 / 25F

Stemless, striped and sturdy are the most notable features of this small aloe native to South Africa. The thick, triangular, dark green colored flesh of its leaves are splashed with irregular bands of white spots and have short, white, and serrated marginal teeth. Winter will give you a show of salmon-pink tubular flowers atop stalks. Just don't over water in winter.



**ALOE WICKENSII WICKEN'S ALOE**

2'-3' high x 2'-4' wide ☀ Full sun / Partial shade 🌡 USDA Zone 9 / 25F

Striking, red hot poker-like flowers on dramatic, 5' tall racemes rise above its foliage during winter and early spring. Wickens' Aloe forms a fairly dense, stemless rosette of long, lanceolate, pale-green curving leaves that are armed with short, brownish colored teeth on their edges. It is native to and will appreciate rocky, hot desert locations with well-draining soil.





*Cacti*

# CACTACEAE

There are words in the English language that characterize or prejudge certain groups with a negative bias. The word “cactus” can be that word. While people recoil negatively with the image of hypodermic-like cactus spines, they can be enlightened with education. Although some species have sharp spines, maybe we should avoid characterizing all Cacti with just this one particular physical attribute. Look at them, as we do, as diverse plant sculptures proudly displayed on the landscape stage. These unique plants were here before us and will be here long after we’re gone. Use this book to understand, accept and even marvel at their evolutionary perfection and beauty.



**CARNEGIE GIGANTEA SAGUARO**

☞ 20'-60' high x 2'-15' wide (The record is 78' high) ☀ Full sun 🌿 USDA Zone 9 / 25F

This is the most iconic symbol of the Sonoran Desert. They grow slowly from the tissue at the very top of a wide, ribbed spiny column. In approximately 60-80 years, their characteristic arms can start to develop. In late spring, clusters of large funnel-shaped white flowers will appear at the tops of each column. Important to orient plants to the same northern direction they had been growing to avoid burning sensitive tissue.

**OLD MAN CACTUS OLD MAN OF MEXICO**

☞ 15'-45' high x 1'-6' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

This multi-columnar formed cacti native to Mexico is covered with a dense, furry white coat, hence the name Old Man. But the white fur is actually modified spines that help protect it from intense sun and frost. Beneath this fuzzy white coat hides its true armament of sharp, yellow spines. It is slow growing and sensitive to overwatering. Good landscape contrast.

**CEREUS PERUVIANUS APPLE CACTUS**

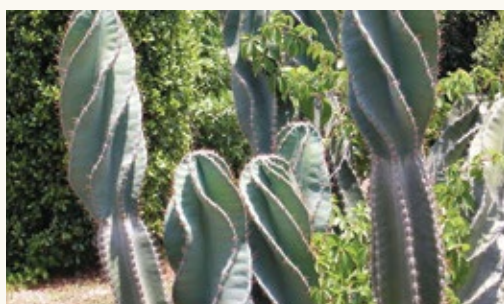
☞ 10'-20' high x 6'-12' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

This is a large and robust, cylindrical type cacti with deep ribs that are usually branched from the base to form a large candelabra-looking plant reaching for the sky. Cool green waxy flesh is protected by spines along the ribs from white somewhat fuzzy areoles. Large, funnel-shaped white flowers occur in spring, followed by large red apple-like fruits.

**CEREUS PERUVIANUS 'MONSTROUS' MONSTROUS CACTUS**

☞ 15'-25' high x 8'-15' wide ☀ Full sun / Partial shade 🌿 USDA Zone 9 / 25F

This blue-green, columnar cacti has deep muscular ribs which are lumpy and bumpy. Branches are usually 4" thick and branch from the base. Spines are needle-shaped, nearly an inch long, and grow out of areoles on the ribs. They grow slowly to form a large, tree-form cacti. Will tolerate moderate watering during growth periods in well-drained soil.

**CEREUS PERUVIANUS 'TWISTED' TWISTED CEREUS**

☞ 10'-20' high x 6'-10' wide ☀ Full sun / Partial shade 🌿 USDA Zone 9 / 25F

Blue-green in color, 4" wide columnar growth habit like the straight species of Cereus but the ribs on this form twist and turn significantly as it adds to its vertical height. Picture a barber pole with spines! You'll appreciate the view from all sides and angles. It makes a striking singular specimen plant in a landscape. Huge cream colored blooms spring to fall.

**CLEISTOCACTUS STRAUSSII SILVER TORCH**

☞ 4'-6' high x 2'-3' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 9 / 25F

Aptly named for its fuzzy coat of dense woolly silvery white hair, this vertical cacti forms multiple columns that are 2" thick and have yellowish spines from close-set areoles. Silver Torch is native to the deserts of Bolivia and Argentina. Shockingly bright red tubular flowers form near the tops of mature columns in early spring and usually last until May.

**ECHINOCACTUS GRUSONII GOLDEN BARREL**

☞ 1'-3' high x 1'-3' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 9 / 25F

These famous, golden-spined, ball-shaped cacti have massive water storage capacities and the ribs will become shallower as they absorb water. The yellow spines are stitched from the bottom to the top, where attractive yellow flowers will appear. Golden Barrels are easy to grow and not particular about soil type. Do not over water in winter, however.

**ECHINOCACTU ENGELMANNII NATIVE HEDGEHOG**

☞ 1'-2' high x 1'-3' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 8 / 10F

This is a small, clump forming, formidable cacti that is native to a wide area of the Southwest from Northern Utah, Eastern California, Nevada, through Arizona and into Mexico. Its tough, prickly demeanor of long spines is softened each spring with magnificent, 3" wide magenta to purple-colored flowers at the top of each of its cylindrical branches.

**ECHINOCEREUS PECTINATUS TEXAS RAINBOW CACTUS**

☞ 0.5'-1' high x 4"-0.5' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 8 / 15F

This is a simple and refined looking small cacti. Single or with a few cylindrical branches that grow close to the ground. Its common name was inspired from the brown, white and pink to red rainbow-like coloration of the flattened, comb-like spines. In summer, showy magenta to lavender flowers up to 5" across like a hat on top seem to dwarf the cacti itself.

**ECHINOCEREUS TRIGOLOCHIDIATUS CLARETCUP**

☞ 1'-3' high x 1'-5' wide ☀ Filtered sun / Partial shade 🌿 USDA Zone 6 / 5F

A large mounding form of echinocereus made up of many thick cylindrical branches that have numerous spines along the edges of its wide ribs. Cup-shaped clusters of flowers, deep orange to scarlet adorn these plants in the spring and remain open for about three days. Plant Claretcups with grasses as an understory to some of our multi-trunked desert trees.





### ESPOSTOA LANATA *WHITE PERUVIAN OLD MAN*

☞ 5'-12' high x 2'-5' wide ☀ Full sun / Filtered sun 🌡 USDA Zone 9 / 25F

Handsome, distinguished and stately, the Peruvian Old Man has silvery-white, silky hair that covers this vertical type column with 2"-3" long yellow spines. They grow very slowly to ultimately form a multi-branched specimen of 12' tall. Native to northern Peru. Nocturnal, 2" white flowers will form near the top of each column followed by fleshy, red fruits.



### ESPOSTOA MELANOSTELE *BROWN PERUVIAN OLD MAN*

☞ 4'-6' high x 1'-3' wide ☀ Full sun / Filtered sun 🌡 USDA Zone 9 / 25F

Branching from the base, this rare cacti grows cylindrical columns that are 3"- 4" thick and have golden spines 1.5" long that turn blackish in color as they mature. The filaments that form a protective coat for this Peruvian will make more of a dense, web-like mat against the stem. Flowers are also 2" long and white in color near the top. Fruits are berry-like.



### FEROCACTUS EMORYI V. RECTISPINUS *LONG-SPINE BARREL CACTUS*

☞ 1'-5' high x 1'-3' wide ☀ Full sun / Filtered sun 🌡 USDA Zone 9 / 25F

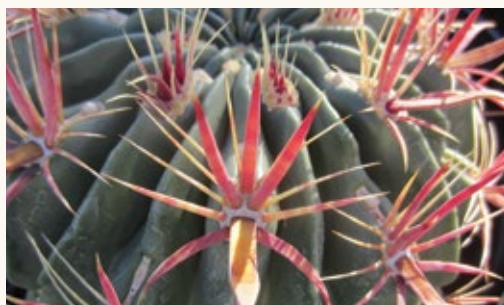
This form of Barrel Cactus from Baja California and Mexico, is recognizable from the straight species because of its 3"-4" long, singular central spine that has a deep reddish color. Its shorter, sharp radial spines, 8-12, are also formidable and recurved. The red spines are a striking accent to the dusty green flesh color of this rugged barrel cactus variety.



### FEROCACTUS GLAUCESCENS *BLUE BARREL*

☞ 1'-2' high x 1'-2' wide ☀ Full sun / Filtered sun 🌡 USDA Zone 9 / 25F

Blue Barrel is one of the most eye-catching varieties of Ferocactus. It has a pleasingly symmetrical round shape, bright blue-gray and golden-yellow spines running down the edges of its ribs. Refined and tidy, this smallish blue gem is often used in mass modern landscape designs. Bright gold, funnel-form flowers will pop in late spring and last into summer.



### FEROCACTUS LATISPINUS *DEVIL'S TONGUE*

☞ 1'-2' high x 1'-2' wide ☀ Full sun / Filtered sun 🌡 USDA Zone 9 / 25F

This deep green barrel has a slight squatty, round shape. Immature plants have fuzzy white areoles along 15-20 offset ribs, which sport a dozen, yellow colored radial spines and a half dozen, red colored central spines, one of which will be the Devil's Tongue itself, sharply hooked at its tip. Shiny, funnel-form magenta flowers will occur in late summer.



### FEROCACTUS PRINGLEI *MEXICAN FIRE BARREL*

☞ 1'-3' high x 1'-2' wide ☀ Full sun / Filtered sun 🌡 USDA Zone 9 / 25F

This is a quintessential barrel native to central Mexico, hence the common name. Branched from the base, it grows slowly to form a large clump of multi-ribbed columns that are about 1' thick, covered with fiery red to purple colored spines. Yellow flowers in the spring and early summer at the top of each plant are followed by round, yellow fruits.



### FEROCACTUS WISLIZENII *FISHHOOK BARREL*

☞ 1'-5' high x 1'-2' wide ☀ Full sun / Filtered sun 🌡 USDA Zone 8 / 15F

This is our native barrel cactus from Arizona into Southern New Mexico. It grows as a single, thick column made up of 20-30 deep, widely spaced ribs. The edges have large areoles with 2"-4" long radial spines and brownish central spines that are hooked at the tips. Orange-red flowers form in the spring followed by large and fleshy, yellow fruits by summer.



### LOPHOCEREUS SHOTTII *SENITA*

☞ 10'-20' high x 8'-12' wide ☀ Full sun 🌡 USDA Zone 9 / 25F

These are virtually stemless, candelabra shaped cacti native to Southern Arizona and Baja California that can grow to a massive size with many vertical, spiny arms, 3"-4" in diameter that have 5-9 ribs. As they mature, the areoles will form dense, brush-like bristles that are a distinctive brownish-gray. Senita will mature to become extremely drought tolerant.



### LOPHOCEREUS SHOTTII 'MONSTROSA' *TOTEM POLE*

☞ 6'-10' high x 4'-8' wide ☀ Full sun / Filtered sun 🌡 USDA Zone 9 / 25F

This is a spineless, genetically mutated lumpy & bumpy looking form of Lophocereus schottii - Senita Cactus. These unique, stemless columnar cacti are tough and rugged but they are painfully slow growing. With time, specimens can become large, stately and dramatic looking. Plant them in your landscape with supporting smaller accent cacti around.



### MAMMILLARIA COMPRESSA *MOTHER OF HUNDREDS CACTUS*

☞ 6"-9" high x 3"-5" wide ☀ Full sun / Filtered sun 🌡 USDA Zone 9 / 25F

Mother of Hundreds Cactus will grow slowly to ultimately form a clump with small globular stems. Maybe not 100, but many will form. Very interesting pattern of dark green nodules in 8 to 13 spirals have white, wooly bristles between with areoles armed in sharp spines 1" to 2" long. Their flowers occur in a range of color from pink to purplish-red at their tops.





### MAMMILLARIA GUERRERONIS CYLINDRICAL PINCUSHION CACTUS

0.5'-1.5' high x 0.5'-1.5' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 9 / 25F

This Mammillaria is a singular or multi-branched mounding cacti native to southeastern Mexico. It has a dense cover of white, bristly spines that give it a wooly-looking appearance. Showy, red blossoms form mid-spring between the areoles an inch below the top of each of its columns. Slow growing, heat and drought tolerant. Keep dry during winter.



### MYRTILLOCACTUS GEOMETRIZANS BLUE MYRTLE CACTUS

3'-10' high x 3'-5' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 9 / 25F

In southern Mexico, specimens can reach 20' high and 25' wide. In cultivation, they tend to be smaller and more manageable. Mature stems will form a woody and scaly trunk while the arm tip retains the bright blue-green color. Short, gray spines are widely spaced along the ribs of each arm. Light watering in summer and avoid watering in fall/winter.



### MYRTILLOCACTUS GEOMETRIZANS 'CRESTED' CRESTED BLUE MYRTLE

3'-10' high x 3'-5' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 9 / 25F

When there is a disturbance in nature, you can get fasciations in the growing tissues of plants that make them form interesting fan-type, wavy or knobby abnormal growth. Crested Blue Myrtle is a cacti with this type of vascular mutation. It is propagated to keep this interesting mutation going. Same cultural requirements as the straight species.



### OPUNTIA ACANTHOCARPA BUCKHORN CHOLLA

3'-6' high x 4'-6' wide ☀ Full sun 🌿 USDA Zone 8 / 15F

Buckhorn Cholla is a shrubby and spiny cacti that is native to Mexico, Arizona and California and transitioned into the lower deserts of Nevada and Utah. They are made up of multiple branched, cylindrical joints approximately 1' long and 1" thick that are surrounded by areoles of 10-12 sharp grayish tan spines. Easy to grow, but don't over water during winter.



### OPUNTIA ARTICULATA 'SYRINGACANTHA' WHITE PAPER-SPINE

0.5'-1' high x 1'-2' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 9 / 25F

These unusual plants are made up of multiple pinecone-like joints that are green to brown-gray. They are virtually spineless except for a few wide and thin paper-like spines at the ends of the top joints. Tough and drought tolerant, during which the "cones" or joints will use their water reserves and become skinnier, but with water they will plump back up.



### OPUNTIA BASILARIS BEAVERTAIL PRICKLY PEAR

1'-2' high x 1'-6' wide ☀ Full sun 🌿 USDA Zone 8 / 15F

Its pads are delightfully oval to heart-shaped, with a smooth looking blue-green color that looks like a Beaver's tail. Variable in size, height and shape in nature, our plants are upright, growing to average height and have gray-green color with smallish, white glochids. Blooming in spring, the flowers are a mesmerizing, radiant shade of magenta.



### OPUNTIA BIGELOVII TEDDY BEAR CHOLLA

3'-6' high x 2'-5' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

Teddy Bear Cholla are multi-branched cacti of light green 2" to 5" long branches. Its common name is from the fuzzy, golden appearance from the multitude of sharp spines covering them. Each spine's tip has microscopic, backward facing barbs that rip skin and flesh when removed. Spectacular with back-lighting, so design your landscape accordingly.



### OPUNTIA ENGELMANNII ENGLEMAN'S PRICKLY PEAR

3'-5' high x 3'-6' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 7 / 10F

The most popular Prickly Pear in the Southwest. They have round, green pads covered with areoles that have golden tan colored glochids and spines. Easy to grow, adaptable and quite forgiving as landscape plants, they spread and multiply. Striking flower color variations are quite common. You can find colors from bright yellow to peach to dark oranges.



### OPUNTIA ELLISIANA SPINELESS PRICKLY PEAR

4'-6' high x 4' - 6" wide ☀ Full sun / Filtered sun 🌿 USDA Zone 7 / 10F

This completely spineless cactus is different from it's cousin above with tear drop shaped pads. It also displays large, bright yellow blossoms in summer and can withstand cold temperatures to zero. Amazing fact: the prickly pear has three different edible sections: the vegetable-like pad, the flower petals, which can be added to salads, and the pear (tuna), which is like a fruit.



### OPUNTIA FICUS-INDICA INDIAN FIG PRICKLY PEAR

5'-15' high x 4'-10' wide ☀ Full sun / Partial shade 🌿 USDA Zone 8 / 15F

This type of popular spineless Opuntia has longer, bright green fleshy oval-shaped pads. The name Indian Fig refers to the big burgundy color sumptuous fruits that follow their yellow summer flowers. Since they are so adaptable, minimalist designers may use them as singular sculptures at the center of a Zen-type garden or as a dramatic living fence.





### OPUNTIA FULGIDA CHAIN FRUIT CHOLLA

3'-6' high x 4'-6' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

A Chain Fruit Cholla will likely be adorned with a crudely built nest from a Cactus Wren family. These rugged cholla are large, shrubby and tree forming cacti. Green, fleshy-looking joints have a significant lattice of gray 1.5" long spines that are perfect for birds. After spring orange flowers, their signature ping-pong ball sized 'chains' of yellow fruit come.



### OPUNTIA GOMEI OLD MEXICO PRICKLY PEAR

4'-5' high x 6'-8' wide ☀ Full sun 🌿 USDA Zone 8 / 15F

This opuntia grows to be a sprawling, large shrub with large, thin light green pads that have an intriguing irregular undulation and scallop along the leaf margins. Large colorful yellow flowers appear in late spring/summer. Serious botanists have debated the origin of the genus name for years. Most likely Opuntia was from the Greek 'opus' which means "fig juice" for the fig-like fruits.



### OPUNTIA MICRODASY'S 'ALBA' WHITE BUNNY-EARS

1.5'-3' high x 2'-3' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

Similar to other opuntia, the 'Alba' has oval to oblong-shaped pads that form a small, shrubby and spreading plant. It's pads are coated with fuzzy white polka-dot glochids and you will see charming bunny ear shapes appear. Like a cholla, plant Bunny-Ears so it gets dramatic backlighting for a real statement. Cut back on any water during cold weather.



### OPUNTIA MICRODASY'S V. RUFIDA BLIND PRICKLY PEAR

2'-4' high x 2'-4' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

These plants are actually native to the Rio Grande Valley of Texas and northeastern Mexico. This variety of prickly pear has a rich, green-gray color to the pads that is highlighted by cinnamon-colored glochids. The fairly round pads can be tinged pink during cold weather and spring brings bright yellow to orange frilly flowers. Just as easy to grow as other opuntia.



### OPUNTIA VERSICOLOR STAGHORN CHOLLA

3'-8' high x 3'-8' wide ☀ Full sun 🌿 USDA Zone 7 / 10F

This is an arborescent type of cholla that is native to Arizona. Many joints up to 1' long are encircled with lots of purple-gray sharp spines, which give a lavender halo. You can find plants that have blossoms of yellow, red or brown, but the most typical color is orange. Staghorn Cholla is a proud, durable and formidable plant for low desert landscapes.



### OPUNTIA VIOLACEA V. SANTA-RITA PURPLE PRICKLY PEAR

2'-4' high x 2'-5' wide ☀ Full sun 🌿 USDA Zone 7 / 10F

Purple is the color of royalty and the Purple Prickly Pear deserves a crown. Its new pads are dark purple, the mature pads have a purple cast over a waxy blue-green tone. The pads will turn a deep amethyst color during fall and winter when temperatures drop. The glochids and spines are almost black and attractively offset the yellow spring flowers.



### OREOCEREUS CELSIANUS OLD MAN OF THE ANDES

3'-4' high x 3'-4' wide ☀ Full sun 🌿 USDA Zone 8 / 15F

Hairy and white, this columnar cacti is about 4" thick with about 10 ribs, hidden under the silky white hairs. A lot of short, golden radial spines also hide beneath this hair but they have red, central spines up to 2" long that protrude through its fuzzy exterior. This Andean old man grows fairly rapidly, it loves alkaline soil but hates moisture during cool times.



### OREOCEREUS TROLLII OLD MAN OF THE MOUNTAINS

1'-2' high x 2'-3' wide ☀ Full sun 🌿 USDA Zone 7 / 10F

This South American native grows at high elevations in remote areas in the Andes. Its fat columns are branched from the base to form small but husky, attractive clumps. Long, gold-brown to reddish colored spines pop right out from beneath their fuzzy cloaks. Like its Andean brother, these cacti are easy to grow but don't like water during cool winter months.



### PACHYCEREUS PECTIN-ARBORIGINUM APACHE WAR CLUB

15'-30' high x 6'-12' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

The Apache War Club commands attention with its strength. A tall, tree-forming cacti native to Western Mexico with bright green trunks 6"- 1' thick, made up of 10-12 ribs that have numerous sharp gray spines running vertically. Its flowers are white, 3" funnel-form and its fruits are yellow and woolly with lots of long golden bristles. Give them some space to grow.



### PACHYCEREUS PRINGLEI CARDON

20'-40' high x 10'-20' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

A Cardon is a tall, giant of the Sonoran desert. Its appearance is reminiscent of our native iconic Saguaro, but it branches right from the base. Equally slow growing, they have gray-green waxy flesh and its ribs are armed with areoles sporting silvery colored spines up to 5" long. Plant now to have a spectacular specimen for your grandchildren.





### PILOSOCEREUS GLAUCESCENS BLUE GHOST

12'-15' high x 3'-5' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 10 / 32F

Blue Ghost is aptly named for its bright blue 2"-4" thick, spiny cylindrical columns that branch from the base. Their blue coloration is accentuated by feathery white hair growing from areoles along the ribs of its vertical stems. Like a neon blue spotlight, they can illuminate a gloomy entrance, accent a courtyard wall or emphasize an otherwise boring corner.



### STENOCEREUS MARIGNATAS

#### MEXICAN FENCE POST

3'-12' high x 2'-5' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

Everybody has love at first sight with this classic. They have smooth bright green flesh on refined 5"-6" thick vertical stems that branch from their base. These columns form squarish-looking stems that have 5-7 ribs with conjoined, bright white areoles. The short spines and bristle-like spines create a striking straight-edge, like a beaded embroidered stitching.



### STENOCEREUS THURBERI ARIZONA ORGAN-PIPE

12'-25' high x 6'-12' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

The wind through these beautiful pipes sounds like music. An Organ Pipe Cactus will branch from the base with inward-curving, 6"-8" diameter stems. Each stem has 12-15 shallow ribs and a dark green color accented by dark brown areoles that have gray star-shaped radial spines. Give some water in warm weather, but stop watering during fall and winter.



### STETSONIA CORYNE TOOTHPICK CACTUS

8'-20' high x 10'-15' wide ☀ Full sun 🌿 USDA Zone 9 / 25F

The Stetsonia forms a magnificent, candelabra-shaped arborescent type plant on a short woody trunk. Its gray-green arms are somewhat jointed, 1'-2' long and towards the tips they turn a brighter blue-green color. These arms are shallowly ribbed so they look quite cylindrical but the ribs have widely spaced oval-shaped areoles with multiple, toothpick-like spines.



### TRICHOCEREUS CANDICANS ARGENTINE GIANT

1.5'-2' high x 3'-4' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 9 / 25F

This is a shrubby plant with bright green, fat cylindrical stems with golden-colored spines along its ribs. The 5"-6" thick stems are decumbent so, in time it will clump irregularly. During spring, displays of its huge, showy white flowers that grow as bouquets can be almost heart-stopping. Plant some of these beauties under your favorite desert shade tree.



### TRICHOCEREUS HYBRID

#### GIANT FLOWERED TRICHOCEREUS

1.5'-3' high x 3'-4' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 9 / 25F

These plants will form multitudes of enormous funnel-formed flowers to help welcome each morning. Although the plants have the same general form and growth habit, each hybrid's blooms will differ in a myriad of colors - red, orange, yellow, pink, peach or white. They are clump forming with wide cylindrical decumbent stems and have multiple ribs with yellow spines.



### TRICHOCEREUS PACHANOI SAN PEDRO

6'-15' high x 3'-5' wide ☀ Full sun / Filtered sun 🌿 USDA Zone 8 / 20F

Bright green vertical stems are 2"-4" thick with very few spines, but have small fuzzy white areoles along the ribs that do have some glochids. San Pedro cacti are native to tropical, mountainous areas in Ecuador & Peru. So they mix well with tropical looking plants like Bird of Paradise. They can scald in areas with too much reflected heat but otherwise adaptable rapid growers.



### TRICHOCEREUS TERSCHECKII

#### ARGENTINE SAGUARO

10'-20' high x 6'-10' wide ☀ Full sun 🌿 USDA Zone 8 / 15F

The "Mini-Me" Saguaro native to Northern Argentina will eventually grow arms like Saguaros. They form 10" thick vertical columns made up of 8-14 ribs. Their areoles are evenly spaced along and have 8-15 radial and center spines that are usually 3" long. Color can vary from green to gray depending on growing conditions. Plant in well-drained soil and don't water them in the winter.





*Euphorbia*

# EUPHORBIACEA

If you were a production designer for a science fiction movie, the genus of euphorbia would be your plant of choice. Some are grand arborescent and thorny specimens, some are spiny angular-growing shrubs and many have unworldly-looking lavish flowers. Truth be told, the spectacular showy colors associated with euphorbias are actually bracts surrounding their small cup-shaped flowers called a cyathium. The unusual physical features of euphorbia come with a sticky white sap that oozes in pruning and is irritating to the skin and eyes. So just use caution. These plants will whisk you away to a supernatural experience, so read on and use your imagination for your landscape designs.





### EUPHORBIA AMMAK 'VARIEGATA' VARIEGATED LUCKY CACTUS

6'-20' high x 3'-8' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

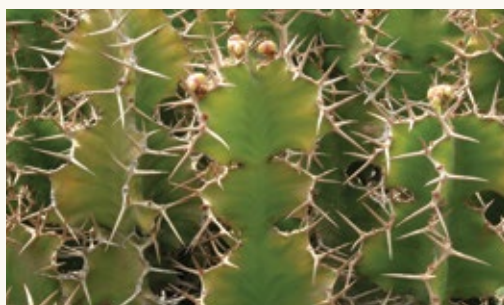
Euphorbia ammak have paired spines on vertical columns divided into 4 distinctive ribs. They grow tall and will form into a candelabra-like shape. This variety has a beautiful paint stroked creamy white finish. Too much direct sun in the low desert can cause harmful scalding to their flesh. Regular watering but let them dry out in between.



### EUPHORBIA ANTISYPHILITICA CANDELILLA

1'-3' high x 2'-4' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 8 / 15F

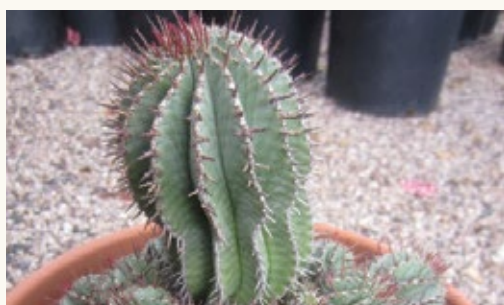
This spineless, shrubby plant is made up of many thin vertical growing cylindrical stems. During the mid-spring into summer they will produce waxy-looking tiny pink to cream colored blooms along the top third of each of these stems. This is one tough plant that will tolerate high heat, drought and neglect. They are native to the grassy scrub of the Chihuahuan Desert.



### EUPHORBIA GRANDICORNUS COW'S HORN EUPHORBIA

4'-6" high x 3'-5' ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

The paired spines on this variety are grayish tan up to 2 1/2" long, making it easy to understand why the latin species name translates to 'Large - Horned'. They are a magnificently branched type of euphorbia whose columnar stems of 3 ribs will be irregularly constricted so they form monstrously thorny segments as they grow.



### EUPHORBIA HORRIDA AFRICAN MILK BARREL

1'-2' high x 2'-3' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

When they are immature they look like greenish-white, spiny sea urchins. African Milk Barrel will eventually form multiple-branched plants with upright growing stems that are 4"-6" in diameter, with many deep wing-like ribs. Their funky, little chartreuse colored blooms will encompass the tops of each stem. Drought tolerant, give only minimal moisture during cold temps.



### EUPHORBIA INGENS CANDELABRA TREE

10'-20' high x 10'-15' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 9 / 25F

This Euphorbia is very popular because it's easy and adaptable. It will grow fairly rapidly to form a tight, vertical but candelabra-shaped tree. It has small, paired thorns along 4 winged ribs with bright green colored flesh. Toward the tops of the stems it will bloom with small, waxy yellow flowers surrounded by greenish colored bracts.



### EUPHORBIA MILII CROWN-OF-THORNS

3'-6' high x 1.5'-4' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

Milii are medium-sized shrubby plants made up of thorny segments that grow luxuriant leaves on new growth. Their tiny yellow flowers are surrounded by bright red to orange bracts. The common name has religious meaning. Easy to grow, just let soil dry between waterings. Try our superior clones. 'Cherokee' - a tall red beauty or 'Jerry's Choice' - a charming magenta dwarf.



### EUPHORBIA RESINIFERA MOROCCAN MOUND

1'-2' high x 4'-6' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

Euphorbia resinifera will make a pale green, multi stemmed leafless mound of square branches which have small paired spines along their edges. Like other euphorbias, plant these in well-drained soil, and keep it dry during winter months. What's not to like about the small but mighty impression the exotic Moroccan Mound makes in any landscape design?



### EUPHORBIA RIGIDA GOPHER PLANT

1'-2' high x 2'-3' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 7 / 10F

Unlike the dull brown rodent it's named for, the gopher has an attractive gray-green color. At the end of its stems forms a sizable umbel of pea-sized yellow-orange flowers surrounded by chartreuse colored bracts. Its leafy stems will become flexed and decumbent under the weight of these blooms. Planted in well-drained soil, the rigida will accept ample amounts of water.



### EUPHORBIA ROYLEANA ROYLEANA EUPHORBIA

6'-12' high x 4'-8' wide ☀️ Full sun / Partial shade 🌡️ USDA Zone 9 / 25F

This tall and leafy tree form of euphorbia is native to India with branching arms like the Durga goddess. It grows columnar branches about 2" thick with short, paired spines on the edges of its 5 ribs. Very popular because they grow quickly and require little to no maintenance. With correct hydration, the green tear-drop shaped leaves give an umbrella-like look.



### EUPHORBIA TIRUCALLI PENCIL TREE

3'-12' high x 3'-6' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

With protection, these unusual plants grow into large shrubs with bright green, pencil-like succulent branches that form a lattice of stems. In northern locales, these adaptable plants are relegated to pots. Their height and width can be manipulated by trimming off branches, but take care to keep its white, caustic sap off bare skin and out of eyes.





### EUPHORBIA TIRUCALLI 'STICKS ON FIRE' FIRESTICK

6-8' high x 3'-5' wide ☀️ Full sun / Filtered sun / Indoor culture 🌡️ USDA Zone 10 / 32F

This Pencil Tree has the fascinating feature of stems that dissolve from green to luminous yellow to burnish-red color at the top. More prominent color will appear on plants exposed to more sun but stems can scald in high, reflected heat situations. Plant in well-drained soil and keep drier during winter months. Sap of Firestick is also caustic to skin and eyes.



### EUPHORBIA TRIGONA GREEN TRIGONA

6'-8' high x 3'-4' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

Euphorbia trigona has strong vertical growth of columnar stems that have 3-4 ribs with multiple smallish teardrop-shaped leaves running up and down each stem. Heavily branched with small toothy spines along their ribs where leaves attach. Enjoy the characteristic V-like, silvery-white bands on a background of dark green stems. Easy to grow and good for containers.



### EUPHORBIA TRIGONA 'RUBY RED' RUBY RED GREEN TRIGONA

6'-8' high x 3'-4' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

The green and ruby red luminescence of this striking vertical growing Euphorbia makes it a garden jewel. Its teardrop shaped leaves are dark, purplish-red color with some of the reddish color seeping into the flesh. Same form and growth habit as her green sister. Trigona Leaves may drop if too dry. Plant Ruby Red in well-drained soil and keep dry in winter.







Perhaps you've heard the mantra; "All cacti are succulents, but not all succulents are cacti". The following plant descriptions are for those xerophytes that have, through time, developed water storage capacities and adaptations to thrive in drought conditions which are considered to be succulents but not cacti. This group of dramatic plants may or may not have spines, but have a special relationship with water. The roots store it, trunks or stems store it, and some have evolved unique leaf forms that store it. The sensuous colors and textures have made succulents on trend recently but the following pages speak to why they endure. Enjoy.



**ADENIUM OBESUM** *DESERT ROSE*

☀️ 3'-6' high x 2'-8' wide 🌞 Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

The Desert Rose is a fleshy-stemmed, spineless trunked, small tree or large shrub. They will have very fanciful displays of showy, funnel-form, tubular flowers, ranging from pure white, rosy pink to magenta. Adenium obesum is a good container plant and will grow to the size of it. Plant in well-draining soil, water regularly but do not over water. Very sensitive to frost.



**ALLUAUDIA PROCERA** *AFRICAN OCOTILLO*

☀️ 6'-15' high x 1'-3' wide 🌞 Full sun / Partial shade / Indoor culture 🌡️ USDA Zone 9 / 25F

Although its common name African Ocotillo may lead some to believe its related to fouquieria, it's actually more closely related to cactaceae. Alluaudia procera forms sparsely branched, tall snaking-stems that are continuously thorny. Small bright green leaves will form on its stems between each thorn. Plant in containers or in-ground with support and protection from frost.



**BEUCARNEA RECURVATA** *PONYTAIL PALM*

☀️ 6'-15' high x 4'-6' wide 🌞 Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 9 / 25F

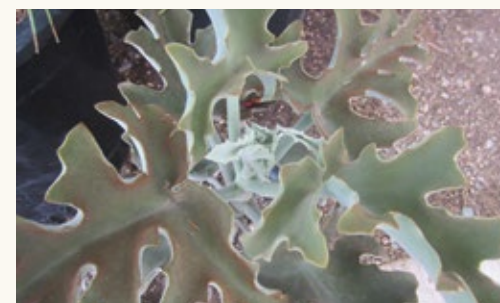
The large, water storing caudex base is very distinctive. Not really a palm at all, the long, skinny bright green leaves draping down from the bare, smooth trunk is why most people call it Ponytail Palm. They are adaptable and drought tolerant. Ideal for containers, they can live root bound for many years. Apply water to its root zone, avoid the crown, in well-drained soil.



**FURCRAEA MACDOUGALLI** *FALSE AVE*

☀️ 6'-12' high x 6'-8' wide 🌞 Filtered sun / Partial shade 🌡️ USDA Zone 9 / 25F

Its long, gray-green sword-like leaves form a basal rosette until it reaches maturity when it will start forming a thick trunk. Looking like a dramatically tall and narrow leafed Agave, this Furcraea is spectacular as a modernistic singular specimen or in a container. Clean, adaptable and drought tolerant, but beware the sharp, cat-claw-like teeth on the margins of its leaves.



**KALANCHOE BAHARENSIS** *ELEPHANT'S EAR*

☀️ 6'-10' high x 4'-8' wide 🌞 Filtered sun / Partial shade 🌡️ USDA Zone 10 / 32F

This Kalanchoe is popular and unique for its soft and velvety, greenish brown crinkle-edged leaves in Matisse-like shapes that grow on multi-branched stems. It is drought tolerant, easy to grow and adaptable but it is frost tender so it will need protection. Older leaves will usually drop off on their own so periodic clean up from underneath is all that is necessary.

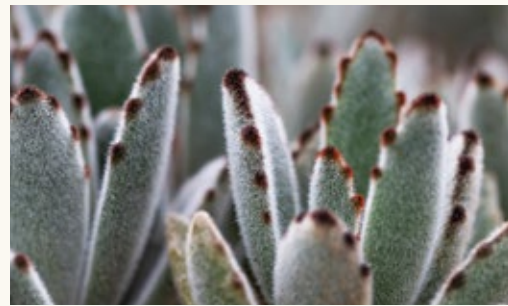




**KALANCHOE LUCIA FLAPJACKS**

1'-2' high x 2'-3' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

This Kalanchoe grows layers of disc-like, powdery-green leaves that are often edged with an attractive coral-red cast. Its cartoony shapes provide noticeable contrast with other plants in containers or window boxes. Plant it in warm rock gardens and raised beds. Prevent rotting it by providing well-drained soil and limiting irrigation during cool fall and winter months.



**KALANCHOE TOMENTOSA PANDA PLANT**

0.5'-1' high x 1'-2' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

The species name and common name describe the fuzzy, white and black-edged leaf of this succulent. This spineless small accent plant is tough but has somewhat delicate leaves that can fall off easily, so resist the temptation to pet your Panda Plant. Although it likes loose, rocky and well-drained soil, it will appreciate periodic watering during summer months.



**PACHYPODIUM LAMEREI MADAGASCAR PALM**

4'-6" high x 3'-5' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

Pachypodium lamerei has sharp, dual-patterned 1.5" spines completely covering its thick, woody-looking greenish-white trunk. On top of these wicked trunks form an upright tuft of bright green long leaves that look like feathers clustered on top of a crown. Mature plants can form elaborate top branching that add to their dramatic appeal. Drought tolerant.



**PEDILANTHUS BRACTEATUS SLIPPER PLANT**

4'-8' high x 3'-4' wide ☀️ Full sun / Partial Shade 🌡️ USDA Zone 9 / 25F

The name Pedilanthus comes from the Greek 'pedil' meaning "shoe" and 'anthos' meaning "flower" because of the red, shoe-shaped flower from this upright succulent. It branches from the base and has narrow cylindrical green stems with ovate leaves, with a thick prominent mid-vein on the lower surface. Plant in full sun to light shade and little to no water.



**PEDILANTHUS MACROCARPUS LADY SLIPPER**

3'-5' high x 3'-5' wide ☀️ Full sun / Partial Shade 🌡️ USDA Zone 9 / 25F

Pedilanthus macrocarpus has multiple bright, chartreuse-colored upright snaking stems that grow out from the base in all directions. In late summer into fall the tops grow bright orange flowers that resemble its signature slipper. Extremely drought and heat tolerant, too much reflected heat can scald leaf surfaces. Little to no maintenance during the year.



**SANSEVIERIA CYLINDRICA AFRICAN SPEAR**

2'-4' high x 2'-4' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

African Spear has cylindrical shaped leaves that grow 2' to 4' long and are tipped with short sharp spines. This variety has distinguishing silvery-white horizontal bands on top of dark green colored leaves. African Spear is one of the most desirable varieties because it is easy to grow, adaptable and durable. Plant in well-draining soil and let it dry out between waterings.



**SANSEVIERIA TRIFASCIATA 'HAHNII' BIRD'S NEST SANSEVIERIA**

0.5'-1' high x 1'-2' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

This Sansevieria forms a basal rosette of tight, short funnel-shaped dark green leaves with variable but attractive silver horizontal banding on its leaf surfaces. Like other Sansevieria, this dwarf form is easy to grow and culturally adaptable. It does need to be planted in protected landscape areas or simply containerized so it can be moved to safety during cold weather.



**SANSEVIERIA TRIFASCIATA 'MOONSHINE' MOONSHINE SNAKE PLANT**

2'-3' high x 2'-3' wide ☀️ Filtered Sun/ Partial Shade/ Indoor Culture 🌡️ USDA Zone 10 / 32F

The Moonshine is a landscape designer's dream for its bold and dramatic foliage. Long, strap-like leaves can reach 4 inches wide and have a lovely silvery-white, almost frosty appearance that almost glows at night. Wavy leaves have smooth edges and plants require little to no maintenance. Plant in dry shade areas or containers and protect from freezing temperatures.



**SANSEVIERIA TRIFASCIATA 'VARIEGATA' VARIEGATED MOTHER-IN-LAW'S TONGUE**

2'-4' high x 1'-2' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

This stunning plant has tall, elongated sword-like leaves with yellow-golden edges that rise from the base with a vertical growth habit. It will slowly multiply and offset to form a small clump. This plant is drought and heat tolerant but will scald badly in too much sunlight. Good for containers, and courtyard plantings where they are protected from freezing temperatures.



**SANSEVIERIA ZEYLANICA DEVIL'S TONGUE**

2'-4' high x 1'-2' wide ☀️ Filtered sun / Partial shade / Indoor culture 🌡️ USDA Zone 10 / 32F

Devil's Tongue leaves are cross-banded with a light, silvery-green coloration. Stemless leaves grow in a clump from the base, they will multiply slowly. These trustworthy, adaptable plants work well in well-drained soil in containers or in protected, frost free areas of the landscape. Combine this Sansevieria with other varieties to create a low maintenance but showy display.





# Glossary

**Anther:** The part of the flower (on the upper part of the stamen) in which pollen is produced

**Areole:** The spine-bearing structures found in members of Cactaceae out of which grow spines

**Asexual reproduction:** Duplicating a plant from any cell, tissue or organ of that plant

**Bloom:** The flower

**Bracts:** Modified leaves borne at the base of a flower of flowering head. Bracts are variable and often brightly colored, sometimes resembling petals.

**Caudex:** Swollen and often woody, above ground water storage structure on succulents and some perennials

**Complete fertilizer:** Fertilizer that contains nitrogen, phosphorus, and potassium

**Crest:** Cellular mutations that form a fan-like or otherwise gnarled deformed growing structure at the meristematic ends of a stem

**Cultivar:** A plant derived from a cultivated variety that has originated under cultivation and is of botanical or horticultural importance, requiring a name

**Epidermis:** The outer protective tissue of a plant

**Family:** A group of related plant genera

**Genus:** Groups of closely related species

**Harden off:** The process of slowly acclimating plants that have been

grown in an indoor or greenhouse environment to accept outdoor growing conditions

**Hybrid:** A first-generation cross between two genetically diverse parents

**Lath:** Overhead or walled protection of evenly spaced slats of wood, metal or plastic to help reduce amount of direct sunlight on plants

**Meristem:** The tissue in plants that are comprised of undifferentiated cells where growth can occur

**Microclimate:** Small areas of localized temperature variations either created or naturally occurring

**Naturalize:** A plants ability to spread themselves by independent means

**Nitrogen:** The most commonly deficient soil nutrient that plants require to form chlorophyll, proteins and enzymes for growth and reproduction

**Offset:** A small 'baby' or young plant that forms at the base of a larger mature plant usually from its roots or stems

**Pathogen:** Micro-organisms like bacteria, fungi and viruses that can cause disease in plants

**Phosphorus:** An important nutrient that helps regulate protein synthesis responsible for cell division and therefore new tissue growth in plants

**Potassium:** An important nutrient necessary for developing strong healthy stems and plays vital role in photosynthesis

**Rosette:** Plants that have leaves that grow in a tight pattern around a center

**Runner:** Slender stems or roots that grow out away from the base of a 'mother' plant that will develop an offset

**Species:** Closely related plants of distinctive taxonomic relations

**Spike:** A flowering stem where the blooms attached directly along its vertical length having flowers that usually open from bottom to their tip

**Spp:** The abbreviation referring to all species within a genus

**Stomata:** Pores on the epidermis of plants that open and close allowing for the exchange of gasses

**Transpiration:** The release of moisture from the stomata

**Under-planting:** Smaller or shorter plants planted underneath trees or larger shrubs

**Variiegated:** Lighter, usually white or yellowish colorations on leaf edges or centers

**Water Penetration:** Volume of water that can move through soil zone after adequate soil wetting has occurred

**Whorl:** Leaves, branches or flowers that grow in a circular formation at a joint or node on a stem





# Latin/Greek

Even though common names are easier to pronounce, they can become more liability than benefit to the horticulture pro. They lack complete description, can be used for two or more totally different species, and to make things really confusing, can change regionally.

Latin is the language utilized for the scientific naming and description of plants. Period. If you gamify the learning, most people can quickly understand and extract important clues about plants from studying Latin names.

There are hard and fast rules in Latin, but don't stress over pronunciation. For example: Evening Primrose – "Oenothera" can be pronounced "Oh-noth-er-a" or "Ee-No-ther-a" and people will still know exactly what plant you are talking about.

Some simple, helpful rules of pronunciation, according to William T. Stearns book *Botanical Latin*:

- **Vowels** are either long or short.
- Names that can contain two vowels together are called a diphthong.

## ae, au, ei, eu, oe or ui

ae as ea in the word Meat

au as aw in the word Awl

ei as I in the word Height

eu as in the word Ewe

oi as oi in the word Toil, or as ee in the word Bee

ui as in the French word Oui, or ui in the word Ruin

- Words that end in ii such as greggii are pronounced greg-ee-i. Both are a long sound.
- Usually in words of several syllables the vocal stress falls on the next to last vowel but you can do whatever sounds natural.

## Consonants usually follow these rules:

- C is hard (K sound) as in Cat if it is before a, o, u like in Calliandra pronounced Kali-andra
- C soft as in Circus if it is before e, i, y (Cereus pronounced Seer-ee-us)
- Ch can be K sound as in Chrisactinia pronounced Kry-sac-tin-ee-ah or soft Ch as in the word Cheese
- G is hard sound as in Gap or Go before a, o, u as in Gardenia and soft sound before e, i, y as in Geranium
- Ph is pronounced as F
- T hard as in the word Table but in word with ti as Sh in the word Nation
- Y as long i as in Dyssodia or Cycas pronounced Di-so-dee-ah, Si-kas



A fascinating feature of Latin or Greek words is that by breaking down and deciphering each part of the name, you will know exactly what the plant looks like.

*Example: Astrophytum myriostigma*

*The first name or genus is Astrophytum which translates to:*

*Astro – star*

*Phytum – plant*

*The second name or species is myriostigma which translates to:*

*Myrio – many or countless*

*Stigma – Spots or Tattoo-mark*

When this plant was originally classified, these words were chosen carefully to describe a star shaped plant with countless spots, which helps you visualize *Astrophytum myriostigma* before you even see it.

Try these tips and soon you'll be able to say the famous Latin phrase "Veni, vidi, vici!" (I came, I saw, I conquered!)

## Good greek words to remember

**acanth, acantho:** spiny, thorny

**albens, albus:** a dull colored white amorphous: shapeless, of indefinite shape

**aurum:** gold

**australis:** south, souther

**azureus:** azure, deep blue

**bi:** two

**binatus:** with a pair

**bis:** twice

**brachy:** short

**brevi:** short

**Caeruleus:** the deep blue of the Mediterranean

**canescens:** becoming gray, grayish

**capitatus:** with knob-like head

**chlor, chloro:** green

**chrys, chryso:** golden

**echinatus, echinate:** armed with rigid hairs

**etum:** place dominated by a given plant

**ferox:** fierce, used for very spiny plants

**floridus:** abounding in flowers

**gal, gala:** milk, milky

**glob, globi:** ball-like

**niger:** black, glossy black

**poly:** many

**pubens:** downy

**rupes:** rocky, rock-dwelling

**scandens:** climbing

**trich, tricho:** hairy, hair-like

**undatim:** in a wavy manner

**vulgaris:** vulgatus

**common general:** ordinary







# Plant Tips



## Remember the 4 P's:

### Proper plant / Proper location / Proper conditions / Proper care

The PROPER PLANT will reach a mature size that is appropriate for its space. It will also have similar watering requirements to other plants in the design, or be separated from those requiring more water. The PROPER LOCATION will have the correct amount of sun exposure to prevent scalding or to prevent stretching from being in too much shade. PROPER SOIL CONDITIONS will allow for appropriate nutrient availability, anchoring and necessary drainage that each plant requires. And of course, the PROPER CARE for these plants relates mostly to providing enough water for optimum growth but not overwatering.

The types of plants in this book have enormous water storing capacities. Many are opportunistic plants that will take up as much water as you give them. However they all have a tipping point where the amount of water given can cause so much tissue damage that they cannot be saved. Too much water can cause suffocation or proliferate fungi on the roots that kill plants, especially when temperatures are warm to hot. This is why good drainage is so important.

Stressed plants are magnets for pests. The same pests that can infect houseplants and leafy landscape plants can be a problem on cacti and succulents as well. There are two reliable and easy defenses for your pest management plan:

- Keep plants healthy and vigorous.
- Observation. Look carefully for signs of potential problems and deal with it quickly.

# Pests

Obviously, only install non-inflected plants to start. But any number of critters might still discover your plants and like them just as much as you do. Here are some types of pests you might find and how to deal with them. Remember: If you choose a commercial product, always follow all manufacturer label recommendations and safety precautions.



**Aphids:** Aphids are attracted to honeydew, the sugary excretion left by Aphids feeding so they may be a clue to an infestation. Large amounts of this honeydew can cause sooty mold on plant surfaces. If you find it simply hose it off and address the Aphid problem with insecticidal soaps or Neem oil, only under 80°F. Or try introducing lacewings and ladybugs, which feed on aphids.



**Mealy Bugs:** Insecticidal soaps, or commercial insecticides can be effective if applied with a surfactant.



**Mites:** Start by spraying infected plants off with water or insecticidal soaps. For major infestations, commercial miticides can be effective if used in multiple treatments. Aloe mites are microscopic so you may only see the damage they create. Regular Spider Mites will cause yellow or white speckling on foliage or you will notice fine webbing around or under the leaves. Keep in mind, plants suffering from drought stress will be more susceptible to attracting mites.



**Scale:** A shielded type insect that can be carefully scraped off when found. Major infestations are difficult to control so prevention is key. If they get out of control, systemic insecticides are most effective.



**Whiteflies:** They can be persistent pests on many leafy landscape plants. Multiple treatments with insecticidal soaps can be effective or simply hose off affected plants periodically. Yellow colored sticky traps can also be a good tool for control.



**Weevil (AKA the Evil Weevil):** Agave Snout Weevil is a beetle that has become an obnoxious problem for landscapers. The adult is a creeping black beetle ½" long with a long tubular snout. The female will chew her way into the base of an agave, leaving a pea-sized hole at the bottom of a leaf. Once inside she will lay eggs which hatch into larvae, a little white grub, and they do the real damage. The larvae will continue to burrow and eat their way into the heart of the plant, rotting it as it matures, pupates and emerges as an adult beetle.

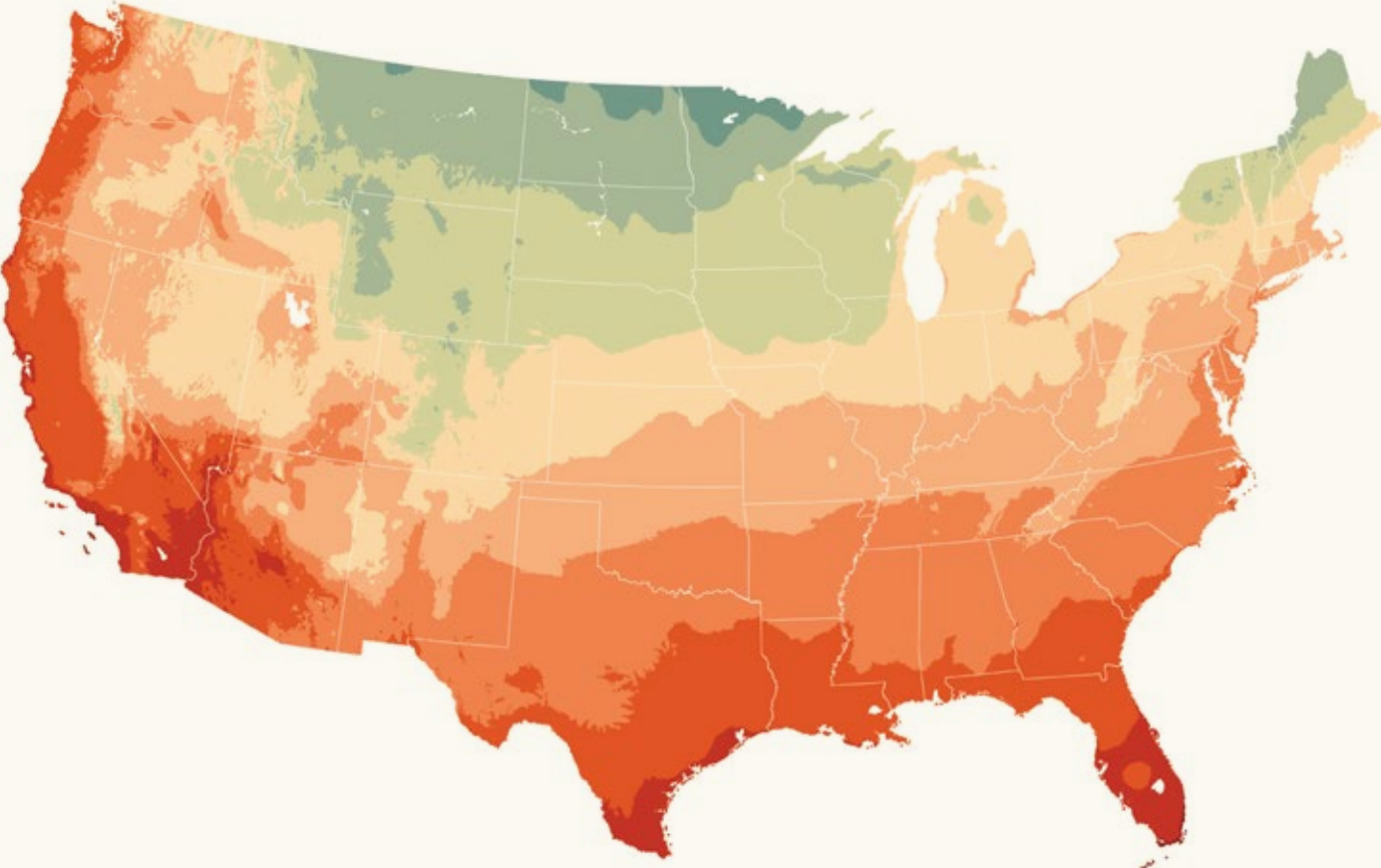
### Prevention of Snout Weevil is multipronged:

- Weevils are attracted to carbohydrate-rich agaves. Their favorites are: *Agave americana*, *A. ovatifolia* and *A. weberi*. By choosing thinner leaved varieties you might avoid attracting Snout Weevil in the first place. Try using plants like *Agave angustifolia*, *A. ocahui* or *A. filifera*.
- Tour your neighborhood to see what types of Agaves are planted. If there are none of the big tasty ones nearby, yours may be less vulnerable.
- Look for evidence of weevils - adults walking around, usually active in April, May or early summer. Destroy any you find. Look for the small pea-sized holes in leaves or tunnels into plants near the ground. Plants with wrinkled or yellowing leaves at their base can be an indication of trouble. Plants that emit a foul, rotten odor and are loose at the base are most likely finished.
- Treat or remove infected plants as soon as possible. Chemical treatments are limited, but appropriate systemic insecticides are commercially available. Also, granulated pesticides can be applied to the ground around the plants and can be a toxic deterrent to the adult female weevils.



# USDA Hardiness Map

USDA hardiness zones are based on the average annual extreme minimum temperatures during a 30-year period, not the lowest temperature that has ever occurred. Microclimates, are fine-scale climate variations that could exist in your immediate area. These could be small heat islands; such as, those caused by larger expanses of blacktop and concrete or cool spots caused by small hills, arroyos or larger drainages. Individual gardens also may have very localized microclimates. Your entire yard could be somewhat warmer or cooler than the surrounding area because it is sheltered or more exposed. Spend some time observing and recognizing areas where these pockets are located to help you choose the best plants for the space.



### Average Winter Lows in Each Hardiness Zone

Zone 3	-40°F to -30°F	Zone 7	0°F to 10°F
Zone 4	-30°F to -20°F	Zone 8	10°F to 20°F
Zone 5	-20°F to -10°F	Zone 9	20°F to 30°F
Zone 6	-10°F to -0°F	Zone 10	30°F to 40°F







# Thank you.

Happy Valley Plants is proud to focus on our global landscape designers, architects, contractors, developers, commercial customers, municipalities, retail nurseries and other wholesale nurseries all over the world. We deliver the expertise of over 41 years of Arizona grown with more CITES certificates than anybody else. That makes us the premiere source for all Agave and Cacti.

The art and business of landscaping has seen many changes in recent years, but our commitment to quality has never varied. We strive every day to deliver the healthiest species and friendliest smiles to all of our customers.

Our primary location, innovation lab and office is very easy to get to in central Phoenix, Arizona.

We also have state-of-the-art production facilities located in many areas of our fertile Grand Canyon state, such as Lake Pleasant and Campe Verde.

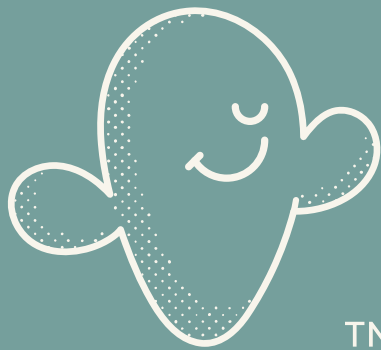
Not only do we ship all over the Southwest in our own fleet of customized eighteen-wheelers, we also ship commercially to serve the global demand for Arizona grown agaves, cacti and succulents. We're currently serving customers in Japan, Europe and the Middle East.

Whatever your location, budget or need may be, let us help you with your landscape or development project.



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