Highlands Cacti

Native Southwest Cacti & Other Succulents
For Elevations 5,000 Feet and Above
Contrary to popular belief...
Many species of cacti and other succulents are quite cold hardy.

- Though cacti are often thought of as low desert plants, many species occur naturally in areas of higher elevations receiving 20 or more inches of annual precipitation.
- Some cold hardy succulents can tolerate temperatures down to forty below F.
- The available literature on cold hardy cacti is extensive and growing (check Internet).
A more conservative gardener

Fishhook Pincushion
(Mammillaria grahamii)
USDA Plant Hardiness Zone Map

- Last updated 1990
- Being revised – more sophisticated version
- Old map based on only 13 years data; new map will draw on 30 years.
- Overall trend predicted is that zones will shift northward.
“The historical record provides plenty of examples of extreme events … What matters is that there is a statistical record of these events occurring with increasing frequency and/or intensity over time, that this trend is consistent with expectations from global warming, and that our understanding of climate physics indicates that this trend should continue into the future as the world continues to warm.”

Extreme Weather and Climate Change, June 2011, Pew Center on Global Climate Change
Brown-spined Prickly Pear

*Opuntia phaecantha*

- Widespread throughout much of SW Mexico
- Hardy to -20 F
- Often forms sprawling clumps
Engelmann’s Prickly Pear
(*Opuntia engelmannii*)

- Widespread throughout much of Southwest and Mexico
- Hardy to -20 F
- Generally more upright than *Opuntia phaecantha* and may hybridize with this species
Plains Prickly Pear

*Opuntia polyacantha*

- Native to much of western U.S. and southern Canada
- Hardy to -30 F
- Available in many hybrid colors
Grizzly Bear Cactus
(Opuntia polyacantha var. erinacea)

- Native to Arizona, Nevada, Utah, NM, and southern California
- Hardy to -20 F
Beavertail Prickly Pear

(Opuntia basilaris)

• Native to Arizona, Utah, Nevada and California
• Hardy to -20 F
• Do not over water.
Cane Cholla
*(Cylindropuntia spinosior)*

- Native to Arizona, New Mexico and Mexico
- Hardy to -10 F
Claret Cup Hedgehog Cactus
(*Echinocereus trichlodiatus*)

- Native throughout southwestern U.S. into Mexico
- Hardy to -30 F
Texas Barrel Cactus
(*Ferocactus hamatacanthus*)

- Native to southwest Texas
- Hardy to 0 F
- One of smaller barrels, usually no more than 12” tall though occasionally larger
Mountain Cactus
*Pediocactus simpsonii*

- Native throughout much of western U.S.
- Hardy to -30 F
- A sub-alpine species (grows up to 9,500 ft.) that does best at altitudes of 5,000 ft. and higher
Glory of Texas
(*Thelocactus bicolor*)

- Native to Texas and Mexico
- Hardy to 10 F
- Long blooming period
Beehive Cactus

*Escobaria vivipara*

- Native throughout much of U.S. and Canada
- Hardy to -10 F
- Blooms last several days
Sea Urchin Cactus
(Coryphantha echinus)

• Native to west Texas & Mexico
• Hardy to 0 F
• Needs to be kept dry in winter
Parry Agave
(Agave parryi)

- Native to Arizona, New Mexico and Mexico
- Hardy to -20 F
- One of the most common ornamental agaves
Utah Agave
(*Agave utahensis*)

- Native to Arizona, California, Utah and Nevada
- Hardy to -20 F
- Most northern agave in distribution
Harvard Agave
(\textit{Agave harvardiana})

- Native to west Texas, SE NM, and Mexico
- Hardy to 0°F or below
Spanish Dagger
(*Yucca aloifolia*)

- Native to coast from Louisiana north to Virginia as well as in Caribbean
- Hardy to 0 F
- One of oldest yuccas in cultivation, with many varieties
Joshua Tree
(Yucca brevifolia)

• Native to Arizona, California, Nevada and Utah
• Hardy to at least 0°F (plantings in Denver suggest even lower)
Giant Dagger Yucca (Yucca faxoniana)

- Native to west Texas & northeastern Mexico
- Hardy to 0°F
- Can reach 20-30’ tall
Mountain Yucca (Yucca schottii)

- Native to foothills and mountains of Arizona, New Mexico, and Mexico
- Hardy to -10 F
- Tolerates more dampness and shade than other yuccas
Mohave Yucca (Yucca schidigera)

- Native to Arizona, California and Nevada
- Hardy to 0 F
- A tree yucca that can reach 16.5’ tall
Red Yucca
(*Hesperaloe parviflora*)

- Native to west Texas and northeastern Mexico
- Hardy to -10 F
- Widely used in public plantings
Cold hardy cactus garden in Kaysville, UT (near Wasatch Mts.)
Maintenance

• Good drainage essential: test, provide mounds, and amend soil if necessary.
• Remove infected pads, packrat nests & other debris.
• Prune cacti as necessary for same reasons you prune trees & shrubs.
• Water judiciously but adequately & only during growing season.
A Partial List of Cactaceae Successfully Cultivated (so far)

<table>
<thead>
<tr>
<th>Cactaceae Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coryphantha echinus</td>
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<tr>
<td>Coryphantha ramillosa</td>
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<tr>
<td>Cylindropuntia acanthocarpa*</td>
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<tr>
<td>Cylindropuntia echinocarpa</td>
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<tr>
<td>Cylindropuntia imbricata</td>
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<td>Cylindropuntia kleiniae</td>
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<td>Cyndropuntia leptocaulis</td>
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<td>Cylindropuntia spinosior</td>
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<tr>
<td>Cylindropuntia versicolor*</td>
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<tr>
<td>Cylindropuntia whipplei</td>
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<tr>
<td>Echinocactus texensis</td>
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<tr>
<td>Echinocereus coccineus</td>
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<tr>
<td>Echinocereus engelmannii</td>
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<tr>
<td>Echinocereus fasciculatus</td>
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<td>Echinocereus reichenbachii</td>
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<td>Echinocereus triglochidiatus</td>
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<tr>
<td>Echinocereus viridiflorus</td>
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<tr>
<td>Escobaria minima</td>
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<tr>
<td>Escobaria missouriensis</td>
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<tr>
<td>Escobaria sneedii</td>
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<tr>
<td>Escobaria vivipara</td>
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<tr>
<td>Ferocactus cylindraceus</td>
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<tr>
<td>Ferocactus hamatacanthus</td>
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<tr>
<td>Opuntia (10 species &amp; var.)</td>
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<tr>
<td>Pediocactus simpsonii</td>
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<tr>
<td>Thelocactus (2 species)</td>
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List of *Agavaceae* successfully cultivated (so far)

<table>
<thead>
<tr>
<th>Agave chrysantha</th>
<th>Yucca aloifolia</th>
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<tr>
<td>Agave havardiana</td>
<td>Yucca baccata</td>
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<tr>
<td>Agave lechuguilla</td>
<td>Yucca brevifolia</td>
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<tr>
<td>Agave lophantha</td>
<td>Yucca faxoniana</td>
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<tr>
<td>Agave neomexicana</td>
<td>Yucca filamentosa</td>
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<tr>
<td>Agave palmeri</td>
<td>Yucca glauca</td>
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<tr>
<td>Agave parryi</td>
<td>Yucca pallida</td>
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<tr>
<td>Agave schottii</td>
<td>Yucca recurvifolia</td>
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<tr>
<td>Agave toumeyana</td>
<td>Yucca rostrata</td>
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<tr>
<td>Agave utahensis</td>
<td>Yucca rupicola</td>
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<tr>
<td>Agave victoriae-reginae</td>
<td>Yucca schidigera</td>
</tr>
<tr>
<td>Hesperaloe parviflora</td>
<td>Yucca schottii</td>
</tr>
<tr>
<td>Hesperaloe funifera</td>
<td>Yucca torreyii</td>
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