

1. Hen and Chicks, *Sempervivum tectorum*
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'Sanford's Hybrid'
3. Rocky stonecrop, *Sedum rupestre* 'Angelina'
4. removed
5. Stringy stonecrop, *Sedum sarmentosum*
6. Sedum, *Sedum kamtschaticum*
7. Two-row stonecrop 'Voodoo', *Sedum spurium*  
'Voodoo'
8. Color Guard Devil's shoestring, *Yucca filamentosa* 'Color Guard'
9. Adam's needle, *Yucca filamentosa*
10. Autumn Joy, *Hylotelephium spectacle*  
'Herbstfreude'
11. Autumn Charm, *Hylotelephium* 'Autumn  
Charm' PP14,421
12. Orpine Live-forever, *Hylotelephium* 'Orpin'
13. Caucasian stonecrop, *Sedum spurium*  
'Tricolor'
14. Trellis (seasonal succulent display)
15. *Sedum album* 'Coral Carpet' (on the log)
16. Cactus Moongrafted, *Gymnocalycium mihanovichii* 'Grafted Moon' (in cement blocks)
17. Aloe 'Delta Lights, *Aloe* (in cement block)

Whatever type of plants you choose, succulents need well-drained soil and containers with drainage holes. They can thrive in cracks, crevasses, rockeries, and sandy or gritty soils. Succulent plants tolerate periods of dryness but should receive regular water during their growing season. When the soil is dry a couple of inches (5 cm.) down, water deeply and then let the soil dry out again between waterings.

The most common problem with succulents is rot from overwatering. Keep stems above the soil; providing drying periods between irrigation will help prevent this, and watering from the base of the plant to keep leaves dry. Your selection of containers will also influence the timing for watering. Terracotta pots are more porous than ceramic, and plastic pots take longer to dry out and can more easily lead to overwatering and rot.

1. Hen and Chicks, *Sempervivum tectorum*, in Crassulaceae family, evergreen succulent, grown for hardiness, foliage color, medicinal, winter interest uses, terminal reddish-purple flowers, upright 6-12" inflorescence, on cyme, in summer
  - ½-1' x ½-1½', mat-forming colonies, moderate growth
  - Full sun, part sun, afternoon shade above 85°F
  - Well-drained, sandy, gravelly, dry to moist soil, 6.0-8.0 pH
  - Low to moderate water, apply deeply, and repeat when soil dries out completely
  - USDA 4-8
  - Monocarpic (hen dies after blooming, leaving offset chicks)
  - Spreads by horizontal stems, offsets, and underground roots



2. Hen and Chicks, *Sempervivum tectorum* 'Sanford's Hybrid', in Crassulaceae family, succulent grown for hardiness, foliage color, terminal bronze-purple flowers, on short spike inflorescence, in summer
  - 1-3" x 6-9", mat-forming colonies, moderate growth
  - Full sun, part sun, afternoon shade above 85°F
  - Well-drained, sandy, gravelly, dry to moist soil, 6.0-8.0 pH
  - Low to moderate water, apply deeply, and repeat when soil dries out completely
  - USDA 4-8
  - Monocarpic (hen dies after blooming, leaving offset chicks)
  - Spreads by offsets and underground roots



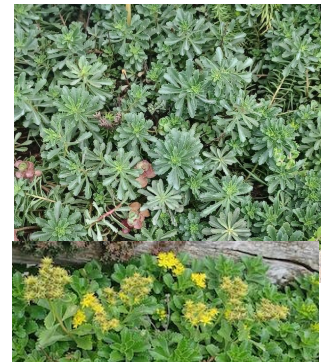
3. Rocky stonecrop, *Sedum rupestre* 'Angelina', in Crassulaceae family, evergreen succulent, grown for hardiness, foliage color, groundcover uses, chartreuse foliage, ½" yellow flowers, on terminal cyme, in summer
  - 3-6" x 1-3', mat-forming, spreading, groundcover, moderately fast growth
  - Full sun, part sun, part shade
  - Well-drained, average, sandy, gravelly, rocky soil, low fertility, dry to moderate moisture, 6.0-7.0 pH
  - Low to moderate water
  - USDA 5-8
  - Resistant to groundhogs



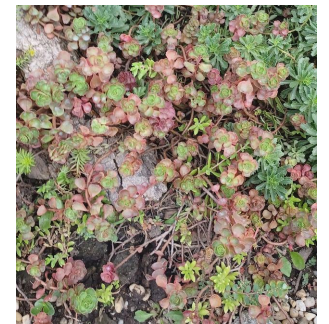
5. Stringy stonecrop, *Sedum sarmentosum*, in Crassulaceae family, evergreen to deciduous in colder regions, succulent, grown for hardiness, ground cover, culinary, uses, tiny yellow star-shaped flowers, in mass, in summer
  - 1-6" x 5-10"+, spreading, mat-forming, arching stems, fast growth
  - Full sun, part sun, part shade, lowered vigor in shade
  - Well-drained soil prefers sandy, rocky soil, drought tolerant once established, occasionally dry, shallow-rooted, 6.6-7.8 pH
  - Low water, regular cycle, let the soil dry between waterings
  - USDA 3-9
  - Attracts birds, butterflies, resistant to groundhogs



6. Sedum, *Sedum kamtschaticum*, in Crassulaceae family, evergreen, deciduous in colder regions, grown for hardiness, ground cover, foliage colors, medicinal uses, yellow star-shaped flowers, clustered, in summer, in mass
- 1-6" x 1½-1½', mat-forming, spreading, ascending stems, woody rhizomes, moderate growth
  - Full sun, part sun, part shade, green foliage will redden in full sun
  - Well-drained soil, sandy, rocky, gravelly, poor, 6.6-7.8 pH
  - Low water, soak and then let the soil dry before the next watering
  - USDA 4-10
  - Resistant to groundhogs
  - Mildly toxic to humans and animals



7. Two-row stonecrop 'Voodoo', *Sedum spurium* 'Voodoo', in Crassulaceae family, evergreen succulent, grown for hardiness, foliage colors, and ground cover uses, rose to pink ½-¾" flowers, in summer
- ¼-½' x 1½-2', mat-forming, erect habit, moderate growth
  - Full sun, part sun, part shade
  - Well-drained, sandy, gravelly soil, dry, 6.6-7.8 pH
  - Low, moderate water, soak, let dry between waterings, avoid overwatering
  - USDA 4-9
  - Attracts butterflies, bees, resistant to groundhogs
  - Burgundy foliage will intensify when the temperature drops below 65°F
  - Poisonous to humans if ingested



8. Color Guard Devil's shoestring, *Yucca filamentosa* 'Color Guard', in Asparagaceae family, evergreen succulent, grown for size, form, texture uses, green, purple marked, mature creamy white huge 2-3" bellflower, fragrant, 2-3 petals, pendant, clustered, on tall 6' conical panicles, in spring-mid-summer
- 3-4' x 3-4', rosette, clumping, slow growth, medium coarse texture
  - Full sun, part sun
  - Well-drained, sandy, loam, shallow-rocky soil, occasionally wet, dry to very dry, 6.1-7.8 pH
  - Low water, drought tolerant once established, water more in containers, and extreme heat conditions
  - USDA 4-10
  - Attracts: birds, butterflies
  - Poisonous: roots, mildly toxic to humans, cats, dogs, horses, saponins destroyed by prolonged heat
  - Monocarpic, parent plant will die after blooming while setting seed and offsets



9. Adam's needle, *Yucca filamentosa*, in Asparagaceae family, evergreen perennial succulent, grown for size, form, texture, low water uses, creamy white nodding, bell-shaped flowers, tall 6'+ conical panicle, in late spring-summer
- 1½-3' x 2-3', rosette, 6-8'+ terminal panicle floral stalk, forms basal offset in a small colony, moderate growth
  - Full sun, part sun
  - Well-drained, sandy-loam, occasionally dry soil or clay soil, 6.1-7.8 pH
  - Low to moderate water
  - USDA 5-10
  - Attracts hummingbirds, butterflies, pollinators, moths, bees, songbirds, small mammals
  - Large fleshy, white taproot, deep lateral roots, difficult to move once established
  - Monocarpic, parent plant will die after blooming while setting seed and offsets





10. Autumn Joy, *Hylotelephium spectabile* 'Herbstfreude', in Crassulaceae family, perennial succulent, grown for foliage texture, ornamental, wildlife, winter interest uses, tiny ½", green to light pink fades to reddish-purple star-shaped blooms, in late summer-fall, held above the foliage, on dense 3-4" rounded corymbose cyme, in mass, flowers are sterile, persists into fall

- 1-2½' x 1½-2', semi-upright to upright, spreading, clump, unbranched stems, fast growth
- Full sun, part sun, part shade (will produce weak, floppy growth)
- Well-drained, sandy to gravelly, shallow-rocky, moderate to poor soil, dry to moist, 6.6-7.8 pH
- Low, moderate water, avoid overwatering, soak and let dry between watering, apply more water for containers or in extreme heat conditions
- USDA 3-10, deciduous in cold regions
- Prune back in late spring to control the size, and encourage thicker, bushier growth
- Attracts butterflies, bees, pollinators, songbirds
- Mildly toxic to humans and animals



11. Autumn Charm, *Hylotelephium* 'Autumn Charm' PP14,421, in Crassulaceae family, succulent, grown for variegated foliage, ornamental, wildlife, winter interest uses, buttery-white variegation, ornamental, white buds, open bright pink flower, held above the foliage, mature magentas, on domed cyme, in late summer-fall

- ¾-1½' x ¾-1½', clump-forming, fast growth
- Full sun, part sun
- Well-drained dry, poor soil, 6.1-7.8 pH
- Low water, occasionally once established, soak and let the soil dry between watering, apply more water in containers and under extreme heat conditions
- USDA 3-9
- Pinch tips to encourage thicker, bushier growth
- Attracts butterflies, bees
- All parts can be mildly toxic to humans and animals if ingested



12. Stonecrop, *Sedum* sp., perennial, in Crassulaceae family, evergreen succulent, grown for hardiness, foliage colors, and ground cover uses, light green, succulent, opposite obovate leaves, smooth margin, 2-ranked, sessile, pink tinted stems, flowers held above the foliage, in summer or fall

- Spreading clump, roots at nodes
- Full sun, part sun
- Well-drained
- Low water, drought tolerant, water in extreme weather
- USDA 5-9
- Attracts bees, tolerant of light foot traffic, resistant to groundhogs



13. Caucasian stonecrop, *Sedum spurium* 'Tricolor', herbaceous perennial, in Crassulaceae family, evergreen succulent, grown for hardiness, foliage colors, and ground cover uses, thick, succulent, opposite obovate flattened ½-1" leaves, wedge-base, toothed near the tip, medium green, reddish-tint white margin, two-row arrangement, burgundy fall color, tiny pink-red ¾" star-shaped flowers, dense-branched clusters, held above the foliage, in late spring-mid-summer

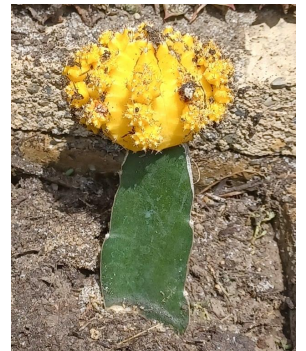
- ¼-½' x 1-2', spreading groundcover, mat-forming, slow-moderate growth
- Full sun, part sun, part shade
- Well-drained, dry to moist average, sandy or gravelly soil, acidic pH, tolerant of drought, erosion, air pollution, poor dry, shallow-rock soils
- Low to moderate water
- USDA 3-9
- Resistant to groundhogs, tolerant of deer, rabbits, and light foot traffic
- Attracts small bee species, and butterflies



14. White Stonecrop, *Sedum album* 'Coral Carpet', herbaceous hardy perennial, in Crassulaceae family, evergreen succulent, grown for hardiness, foliage colors, and ground cover uses, thick, succulent, salmon-orange juvenile foliage, matures bright green, linear-oblong, cylindrical to flattened green  $\frac{3}{4}$ " leaves, reddish-bronze fall color, showy tiny white to pale pink  $\frac{3}{4}$ " star-shaped flowers, 3-6" panicle cymes, held above the foliage, in late spring-mid-summer
- 3-6" x 6-9", spreading groundcover, mat-forming, heavy density, fast growth
  - Full sun, part sun, part shade
  - Well-drained, dry to average, sandy or gravelly soil, **acidic pH**, tolerant of erosion, air pollution, shallow-rock soils
  - Low to moderate water
  - USDA 3-9
  - Attracts butterflies, tolerant of heat, drought once established, deer, rabbits, and light foot traffic



15. Cactus Moongrafted, *Gymnocalycium mihanovichii* 'Grafted Moon', herbaceous perennial, in Crassulaceae family, evergreen succulent, grown for hardiness, ornament uses, thick, succulent green stock, pink, orange or yellow graft, stores water in foliage, stems, and roots
- 6-10" x 1-4", erect, slow summer growth
  - Full sun, part sun, part shade
  - Well-drained, dry to average moisture, sandy or gravelly (70% to 80% mineral grit e.g. coarse sand, pumice, or perlite) soil
  - Tolerant of drought, erosion, poor dry, shallow-rock soils
  - Low to moderate water, apply deeply, and repeat when the soil dries out completely
  - USDA 10-12, tender in cold regions, bring indoors prior to frost
  - Resistant to groundhogs



16. Aloe 'Delta Lights', *Aloe* 'Delta Lights', hybrid *A. deltoideodonta*, herbaceous perennial, in Asphodeloideae family, evergreen succulent, grown for hardiness, foliage color uses, thick, succulent, opposite obovate flattened  $\frac{1}{2}$ -1' leaves, 1-3" wedge-base, taper to tip, dark green with zigzag yellow/chartreuse variegated bands, reddish-tint white margin, two-row arrangement, burgundy fall color, tiny dark red-orange  $\frac{3}{4}$ " tubular flowers, dense-branched clusters, held above foliage, in fall-spring, once mature, hybrid seeds are not true, use stem cuttings or offsets
- 1-1 $\frac{1}{2}$ ' x 1-2', rosette, slow-moderate growth
  - Full sun (AM), part sun, part shade (PM hot zones)
  - Well-drained, dry to average soil, sandy or gravelly, (50-70% mineral grit e.g. coarse sand, pumice, or perlite)
  - Tolerant of drought
  - Low to moderate water, apply deeply, and repeat when the soil dries out completely
  - USDA 9b-12, briefly to 25-30°F, not hard frost hardy, bring indoors for the winter
  - Attracts hummingbirds and birds

