

| Genus | Variety | Bloom Color | Bloom Season | Tolerance | Light | Foot-candle | PPP | Finish Time | Water | Fertilizer | Temperature | Pinch | Growth-regulator | Pests | Description |
|------------------------------------|----------------------|---------------|-----------------------------------|--|--------------------------|-----------------------------|------------------------------|---|--|---------------|---------------------------|----------------------------------|----------------------------------|--|---|
| Achillea x | Moonshine | Lemon yellow | Summer | Heat and drought tolerant. Zone 3-8. | Full sun. | 5,000 to 7,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 13-14 weeks for 1 Gallon; 4-9 weeks for 4" | Dry to moist, keep well drained. | 150-200 ppm N | Day 64-68F. | Generally not needed. | B-Nine or Bonzi as needed. | Aphids, thrips; botrytis, powdery mildew, root rot. | Clump-Forming, carefree and generously blooming evergreen perennial for summer and early fall. Reaches 18 to 24 inches tall and can be as wide. |
| Ajuga reptans (Bugleweed) | Burgundy Glow | Indigo Blue | Late spring to early summer. | Hardy to -30F. Tolerates poor soil. Zone 3-11. | Part shade to shade. | 3,000 to 5,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 6-8 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 58-68F. | Generally not needed. | None needed. | Scout for normal greenhouse pests. | Very fast growing groundcover averaging 5-7" tall, with unique foliage and bright blue spikes. Foliage is dark bronze with pink, green and cream markings, wonderful for creating colorful borders or edging. |
| Ajuga reptans (Bugleweed) | Bronze Beauty | Bright blue | Late spring to early summer. | Tolerates full shade and poor soil. Zone 3-11 | Part shade to part sun. | 3,000 to 5,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 11-13 weeks for 1 Gallon; 5-9 weeks for 4" | Keep evenly moist, but not consistently wet. | 150 ppm N | Day 58-68F. | Generally not needed. | None needed. | Aphids, whiteflies; root and stem rot. | Very low growing, fast spreading groundcover with bronze-purple foliage and beautiful bright blue flowers. Full sun enhances leaf color, but can cause leaf burn. Can spread 24 to 36" wide, with a height of 4-6". |
| Ajuga x tenorii (Bugleweed) | Chocolate Chip | Light Blue | Spring to early summer. | Excellent heat tolerance. Deer resistant. Zone 3-11 | Part shade to sun. | 3,000 to 5,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 12-14 weeks for 1 Gallon; 6-8 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 58-68F. | Generally not needed. | None needed. | Blight, leaf spots and crown rot, if kept too wet. | Very dense groundcover averaging 4-7" tall with chocolate bronze foliage and light blue spikes. Attracts butterflies and humming birds. Looks wonderful in rock gardens, borders or in containers. |
| Artemisia (Wormwood) | Silvermound | Yellow | Summer | Disease and heat resistant. Zone 3-11. | Full sun. | 5,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 11-13 weeks for 1 Gallon; 5-9 weeks for 4" | Keep evenly moist and well drained. | 200 ppm N | Day 68-75F. | Generally not needed. | Bonzi is effective if needed. | Aphids, whiteflies; root and stem rot. | Fast growing, fragrant groundcover averaging 10-12" tall with delicately cut, silver foliage and small yellow flowers. Use in containers, hanging baskets and window boxes. |
| Campanula x (Clustered Bellflower) | Birch Hybrid | Purple/blue | Spring to early fall. | Hardy to -10F. Deer resistant. Zone 4-9. | Full sun to part shade. | 3,000 to 5,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 12-14 weeks for 1 Gallon; 6-8 weeks for 4" | Keep evenly moist and well drained. | 100-200 ppm N | Day 64-68F. | Generally not needed. | Generally not needed. | Scout for normal greenhouse pests. | Non-invasive, spreading groundcover averaging 4-6" tall with nodding cup-shaped flowers. Great for naturalizing, walls and crevices, rock gardens and containers.. |
| Coreopsis auriculata (Tickseed) | Nana | Golden yellow | Late spring to early fall. | Tolerates short periods of drought. Zone 4-9. | Full sun. | 5,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 5-6 weeks for 4" | Keep evenly moist and well drained. | 150-200 ppm N | Day 60-70F. Night 55-60F. | Generally not needed. | Not required; B-Nine if desired. | Slugs, whiteflies, thrips, aphids; spray preventively. Drench with broad-spectrum fungicide at liner planting. | Daisy-type golden yellow flowers atop dwarf, clump forming plants, averaging 4-8" in height and 24" across, make excellent borders or cut flowers. |
| Coreopsis grandiflora (Tickseed) | Sundancer (PAT) | Yellow | Spring to early summer. | Drought tolerant. Zone 4-9 | Full sun to part shade. | 5,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 5-6 weeks for 4" | Keep evenly moist and well drained. | 150-200 ppm N | Day 60-70F. Night 55-60F. | Generally not needed. | Not required; B-Nine if desired. | Whiteflies, thrips, aphids; spray preventively. Drench with broad-spectrum fungicide at liner planting. | Semi-double bright yellow flowers cover this plant in spring and summer. With an average height of 18-20" it is great for borders, containers or growing for cut flowers. |
| Coreopsis verticillata | Moonbeam | Lemon yellow | Summer | Tolerates short periods of drought. Zone 4-9. | Full sun. | 5,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 5-6 weeks for 4" | Keep evenly moist and well drained. | 150-200 ppm N | Day 60-70F. Night 55-60F. | Generally not needed. | Not required; B-Nine if desired. | Whiteflies, thrips, aphids; spray preventively. Drench with broad-spectrum fungicide at liner planting. | Lacy green foliage, averaging 24" tall, with a vigorous spreading habit that continuously blooms all summer with pale lemon yellow flowers. Great for containers, baskets, mass plantings or fresh floral arrangements. |
| Delosperma cooperi | Hardy Ice Plant | Pink | Early summer through late summer. | Tolerates short periods of drought. Zone 6-10 | Full sun to light shade. | 5,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 5-6 weeks for 4" | Dry to moist, keep well drained. | 100-200 ppm N | Day 68-75F. | Generally not needed. | None needed. | Aphids. | Dwarf, spreading groundcover with deep green, almost succulent looking foliage and bright magenta flowers. With a height of 4-6" and a spread of 24", this variety makes a wonderful addition to any rock garden or perennial border. Easy grower that does well in poor soil and requires little care. |
| Delosperma nubigerum | Yellow Ice Plant | Yellow | Early summer through late summer. | Drought tolerant. Zone 5. | Full sun. | 5,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 5-6 weeks for 4" | Dry to moist, keep well drained. | 100-200 ppm N | Day 68-75F. | Generally not needed. | None needed. | Aphids. | This dwarf, succulent groundcover is fast-growing with a spreading habit and does well in poor soil. Creeping and mat forming, it averages only 2-3" tall and produces 3/4" bright yellow flowers in the summer, and a slightly reddish foliage in the fall. |
| Galium odoratum | Sweet Woodruff | White | Spring | Drought tolerant. Zone 4-8. | Part sun to full shade. | 4,000 to 7,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 12-16 weeks for 1 Gallon; 6-10 weeks for 4" | Keep evenly moist, but not consistently wet. | 150 ppm N | Day 62-68F. | Generally not needed. | None needed. | Aphids, whiteflies. | Tiny, fragrant flowers on bright green, low-growing, whorled foliage create a wonderful groundcover averaging only 4-9" tall. A bright addition to any shady spot in the landscape. |
| Gaura lindheimeri | Siskiyou Pink | Reddish-pink | Summer | Heat and humidity tolerant. Zone 5-9. | Full sun. | 5,000 to 9,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 15 weeks for 1 Gallon; 5-9 weeks for 4" | Keep evenly moist and well drained. | 150-200 ppm N | Day 65-74F. | At least once during production. | B-Nine or Sumagic as needed. | Aphids, leafminer, whiteflies; root rot. | Long flowering, brilliant, reddish-pink blooms with white stamens on delicate sprays of foliage, averaging 3-4 feet tall, will delight gardeners with blooms all summer long. A great addition to any garden, especially in hot, humid climates. |
| Gaura lindheimeri | Whirling Butterflies | White | L.Spring/E.Fall | Heat and humidity tolerant. Drought tolerant once established. Zone 5-10 | Full sun. | 5,000 to 9,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 15 weeks for 1 Gallon; 5-9 weeks for 4" | Keep evenly moist and well drained. | 150-200 ppm N | Day 65-74F. | At least once during production. | B-Nine or Sumagic as needed. | Aphids, leafminer, whiteflies; root rot. | Long flowering white blooms that fade to pale pink on delicate sprays of foliage averaging 2-4 feet tall with a 3 foot spread. A great addition to any garden that will delight gardeners with blooms all summer long. |
| Iberis sempervirens | Purity | Pure white | Spring through early summer | Drought Tolerant. Zone 5-9 | Full sun to part shade. | 5,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 6-8 weeks for 4" | Keep evenly moist and well drained. | 200 ppm N | Day 59-64F. | At least once during production. | None needed. | Root rot from too wet. | Compact evergreen with dark green, glossy, needle-like, foliage covered with clusters of pure white flowers from spring to early summer. Its compact mounding habit make it perfect for rock gardens, edging and containers. Attracts bees and butterflies. |

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| Lamium galeobdolon | Herman's Pride | Yellow | Late spring | Zone 4-11. | Part shade to full shade. | 3,000 to 5,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 6-7 weeks for 4" to 6"/1G1. Pot. | Keep evenly moist and well drained. | 200 ppm N | Day 65-75F. Night 45-55F. | One pinch two weeks after liner planting. | None needed. | Aphids, whiteflies, slugs, mildews. | Shiny silvery leaves with green venation and a creeping/trailing habit averaging 6-12" high. Its small but showy flower spikes make this a wonderfully appealing accent plant for baskets and window boxes, also a nice addition to any shady perennial garden or as a groundcover with unlimited spread. |
| Lamium maculatum | Beacon Silver | Pink | Mid spring | Zone 3-8. | Part sun to shade. | 4,000 to 7,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 11-13 weeks for 1 Gallon; 5-10 weeks for 4" | Keep evenly moist and well drained. | 200-250 ppm N | Day 65-73F. | 0-2 pinches recommended. | None needed. | Aphids, whiteflies; root and stem rot. | Beautiful oval, metallic gray-green to silvery-white leaves with greenish margins and short spiked pale pink flowers that bloom from May to July. With a height of only 6-8" and a spread of 12-24", this versatile groundcover also makes a wonderful hanging basket or will trail over the edge of a wall or planter. |
| Leucanthemum x superbum (Shasta Daisy) | Becky | White | Summer through fall. | Heat, drought and humidity tolerant. Zone 4-9. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 10 weeks for 1 Gallon; 6-8 weeks for 4" | Keep evenly moist and well drained. | 150-200 ppm N | Day 65-75F. Night 45-55F. | Generally not needed. | None needed. | Aphids, spider mites, and thrip; Leaf spot. Drench with broad-spectrum fungicides at liner planting. | Long blooming, sturdy upright, averaging 28-36" tall with a similar spread, produces coarse leathery leaves and large, bright white single blooms that are attractive to butterflies. A wonderful choice for containers, perennial borders, cut arrangements, or naturalizing a landscape. |
| Leucanthemum x superbum (Shasta Daisy) | Snowcap | White | Late spring to summer. | Resistant to heat, drought and humidity. Zone 5-9. | Full sun to light shade. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 10 weeks for 1 Gallon; 6-8 weeks for 4" | Keep evenly moist and well drained. | 150-200 ppm N | Day 65-75F. Night 45-55F. | Generally not needed. | None needed. | Aphids, spider mites, and thrip; Leaf spot. Drench with broad-spectrum fungicides at liner planting. | Compact, vigorous, dwarf form of shasta daisy, with deep, shiny, green foliage and long-lasting, pure white flowers. This mounding perennial, averaging 6-10" tall with a spread of 6-9", is resistant to drought, heat and humidity. Attractive to bees, butterflies and birds, and excellent for borders, containers, cut flowers or xeriscaping. |
| Lysimachia nummularia (Creeping Jenny/Moneywort) | | Yellow | Summer | Drought tolerant for short periods. Zone 4-8. | Full sun to full shade. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 6-7 weeks for 4" to 6"/1G1. Pot. | Keep evenly moist and well drained. | 200-250 ppm N | Day 75-85F. Night 55-65F. | One pinch two weeks after liner planting. | None needed. | Aphids, whiteflies. | Fast growing, mat forming groundcover with an unlimited spread, and a height of 1-3". Covered with small round greenish gold leaves and yellow flowers this variety is versatile, tough and extra cold-resistant. Can be somewhat invasive, but still a wonderful addition to patio pots, mixed plantings or as a hanging basket. |
| Oenothera berlandieri | Siskiyou | Pink | Summer | Zone 5-9. | Full sun to light shade. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 21 weeks for 1 Gallon; 11-15 weeks for 4" | Keep evenly moist and well drained. | 150-200 ppm N | Day 62-69F. | Generally not needed. | None needed. | Aphids, whiteflies; botrytis, root rot. | Free-flowering perennial, averaging 12-18" in height, with large, saucer shaped, soft pink flowers on slender branches. Excellent performer in the landscape that is quite vigorous and will spread and fill in for a sunny groundcover. Also does well in containers. |
| Perovskia atriplicifolia | Longin | Lavender-blue | Summer | Zone 3-8. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 14-17 weeks for 1 Gallon; 7-11 weeks for 4" | Keep evenly moist and well drained. | 150-200 ppm N | Day 65-72F. | Generally not needed. | B-Nine, Cycocel or Sumagic. | Aphids, mites, whiteflies; root rot. | Unique looking, deciduous semi-woody, upright averaging 36-48" tall with silver-gray, deeply cut, aromatic foliage and small lavender-blue flowers. Easy to grow in full sun, and extremely well suited for mass plantings or mixed borders. |
| Phlox paniculata | Blue Boy | Lavender-blue w/ white eye | Summer-Fall | Zone 4-8. Mildew resistant | Full sun to light shade. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 6-8 weeks for 4"-6"; 10-14 weeks for #1 or 10"-12" | Keep evenly moist, but not consistently wet. | 100-200 ppm N | Day 58-65F. | Generally not needed. | None needed. | Whiteflies, aphids and mites; spray preventively prior to bloom. Botrytis in areas of poor air movement. Drench with broad-spectrum fungicides at liner planting. | Heavy blooming, fragrant flower clusters atop tall, sturdy stems averaging 30" tall and 12-24" wide. Great for the back of borders, in mass plantings or cut flowers. Remove faded flowers to extend blooming. Attractive to butterflies and hummingbirds. |
| Phlox paniculata | Bright Eyes | Salmon Pink w/ crimson eye. | Summer-Fall | Zone 4-8. Mildew resistant | Full sun to light shade. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 14-16 Weeks for 10"; 8-10 Weeks for 4" | Keep evenly moist, but not consistently wet. | 100-200 ppm N | Day 58-65F. | Generally not needed. | None needed. | Whiteflies, aphids and mites; spray preventively prior to bloom. Botrytis in areas of poor air movement. Drench with broad-spectrum fungicides at liner planting. | Heavy blooming, fragrant flower clusters atop tall, sturdy stems averaging 24-36" tall and 18-24" wide. Great for the back of borders, in mass plantings or cut flowers. Remove faded flowers to extend blooming. Attractive to butterflies and hummingbirds. |
| Phlox paniculata | David | White | Summer-Fall | Zone 4-8. Mildew resistant | Full sun to light shade. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 6-8 weeks for 4"-6"; 8-10 weeks for #1 or 10"-12" | Keep evenly moist, but not consistently wet. | 100-200 ppm N | Day 58-65F. | Generally not needed. | None needed. | Whiteflies, aphids and mites; spray preventively prior to bloom. Botrytis in areas of poor air movement. Drench with broad-spectrum fungicides at liner planting. | Heavy blooming, fragrant flower clusters atop tall, sturdy stems averaging 36" tall and 24" wide. Great for the back of borders, in mass plantings or cut flowers. Remove faded flowers to extend blooming. Attractive to butterflies and hummingbirds. |
| Phlox paniculata | Eva Cullum | Pink w/ red eye | Summer-Fall | Zone 4-8. Mildew resistant | Full sun to light shade. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 14-16 Weeks for 10"; 8-10 Weeks for 4" | Keep evenly moist, but not consistently wet. | 100-200 ppm N | Day 58-65F. | Generally not needed. | None needed. | Whiteflies, aphids and mites; spray preventively prior to bloom. Botrytis in areas of poor air movement. Drench with broad-spectrum fungicides at liner planting. | Heavy blooming, fragrant flower clusters atop tall, sturdy stems averaging 24-48" tall and 24" wide. Great for the back of borders, in mass plantings or cut flowers. Remove faded flowers to extend blooming. Attractive to butterflies and hummingbirds. |

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| Phlox subulata (Creeping Phlox) | Candy Stripe | Pink and white striped. | Early Spring | Zone 4-8. | Full sun. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 21 weeks for 1 Gallon; 6-9 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 62-68F. | Generally not needed. | None needed. | Aphids, whiteflies, mites; root rot, botrytis, powdery mildew. | Low-growing, vigorous, semi-evergreen groundcover, averaging 6-9" in height, with needle-like foliage and masses of blooms in early to mid spring. Great groundcover for banks or terraced landscapes, and in rock gardens or sloped borders. |
| Phlox subulata (Creeping Phlox) | Emerald Blue | Periwinkle blue | Early Spring | Zone 4-8. | Full sun. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 21 weeks for 1 Gallon; 6-9 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 62-68F. | Generally not needed. | None needed. | Aphids, whiteflies, mites; root rot, botrytis, powdery mildew. | Low-growing, vigorous, semi-evergreen groundcover, averaging 6-9" in height, with needle-like foliage and masses of blooms in early to mid spring. Great groundcover for banks or terraced landscapes, and in rock gardens or sloped borders. |
| Phlox subulata (Creeping Phlox) | Emerald Pink | Pink | Early Spring | Zone 4-8. | Full sun. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 21 weeks for 1 Gallon; 6-9 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 62-68F. | Generally not needed. | None needed. | Aphids, whiteflies, mites; root rot, botrytis, powdery mildew. | Low-growing, vigorous, semi-evergreen groundcover, averaging 6-9" in height, with needle-like foliage and masses of blooms in early to mid spring. Great groundcover for banks or terraced landscapes, and in rock gardens or sloped borders. |
| Phlox subulata (Creeping Phlox) | Fort Hill | Deep pinkish-rose | Early Spring | Zone 4-8. | Full sun. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 21 weeks for 1 Gallon; 6-9 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 62-68F. | Generally not needed. | None needed. | Aphids, whiteflies, mites; root rot, botrytis, powdery mildew. | Low-growing, vigorous, semi-evergreen groundcover, averaging 6-9" in height, with needle-like foliage and masses of blooms in early to mid spring. Great groundcover for banks or terraced landscapes, and in rock gardens or sloped borders. |
| Phlox subulata (Creeping Phlox) | Millstream Daphne | Bright pink w/ dark eye. | Early Spring | Zone 4-8. | Full sun. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 21 weeks for 1 Gallon; 6-9 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 62-68F. | Generally not needed. | None needed. | Aphids, whiteflies, mites; root rot, botrytis, powdery mildew. | Low-growing, vigorous, semi-evergreen groundcover, averaging 6-9" in height, with needle-like foliage and masses of blooms in early to mid spring. Great groundcover for banks or terraced landscapes, and in rock gardens or sloped borders. |
| Phlox subulata (Creeping Phlox) | Red Wing | Crimson | Early Spring | Zone 4-8. | Full sun. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 21 weeks for 1 Gallon; 6-9 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 62-68F. | Generally not needed. | None needed. | Aphids, whiteflies, mites; root rot, botrytis, powdery mildew. | Low-growing, vigorous, semi-evergreen groundcover, averaging 6-9" in height, with needle-like foliage and masses of blooms in early to mid spring. Great groundcover for banks or terraced landscapes, and in rock gardens or sloped borders. |
| Phlox subulata (Creeping Phlox) | Scarlet Flame | Scarlet | Early Spring | Zone 4-8. | Full sun. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 21 weeks for 1 Gallon; 6-9 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 62-68F. | Generally not needed. | None needed. | Aphids, whiteflies, mites; root rot, botrytis, powdery mildew. | Low-growing, vigorous, semi-evergreen groundcover, averaging 6-9" in height, with needle-like foliage and masses of blooms in early to mid spring. Great groundcover for banks or terraced landscapes, and in rock gardens or sloped borders. |
| Phlox subulata (Creeping Phlox) | White Delight | Pure White | Early Spring | Zone 4-8. | Full sun. | 4,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 21 weeks for 1 Gallon; 6-9 weeks for 4" | Keep evenly moist and well drained. | 150 ppm N | Day 62-68F. | Generally not needed. | None needed. | Aphids, whiteflies, mites; root rot, botrytis, powdery mildew. | Low-growing, vigorous, semi-evergreen groundcover, averaging 6-9" in height, with needle-like foliage and masses of blooms in early to mid spring. Great groundcover for banks or terraced landscapes, and in rock gardens or sloped borders. |
| Potentilla verna (Creeping Cinquefoil) | Nana | White | Spring through early summer. | Cold hardy to -30F. Zone 4-8. | Full sun to part shade. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | | Dry to moist, keep well drained. | 100-200 ppm N | Day 68-75F. | Generally not needed. | None needed. | Scout for normal greenhouse pests. | Dainty, bright evergreen creeper, averaging 2-3" tall with a 2 foot spread that produces bright butter-yellow flowers on hairy stems. Great groundcover for little or no traffic areas, or wonderful addition to rock gardens, or between paving stones. |
| Salvia nemerosa | Blue Hills | Sky blue | Summer to early fall. | Zone 4-7. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 16-19 weeks for 1 Gallon; 6-12 weeks for 4" | Keep evenly moist and well drained. | 200 ppm N | Day 58-65F. | Generally not needed. | None needed. | Aphids, whiteflies; root rot, botrytis, powdery mildew. | This long flowering, self-supporting, perennial with an average height of 15" produces purple stems with gray-green, aromatic foliage and true blue flower spikes from June to October. Excellent for cut flowers, as an addition to a perennial garden or in containers. Also attractive to bees, butterflies and humming birds. |
| Salvia nemerosa | May Night | Purple | Summer to early fall. | Zone 4-8. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 16-19 weeks for 1 Gallon; 6-12 weeks for 4" | Keep evenly moist and well drained. | 200 ppm N | Day 58-65F. | Generally not needed. | None needed. | Aphids, whiteflies; root rot, botrytis, powdery mildew. | Long flowering, self-supporting, perennial with an average height of 18" that produces purple stems with blue-gray, aromatic foliage and violet purple flower spikes from June to October. Excellent for cut flowers, as an addition to a perennial garden or in containers. Also attractive to bees, butterflies and humming birds. |
| Salvia superba | East Friesland | Violet-blue | Summer to early fall. | Zone 4-7. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 16-19 weeks for 1 Gallon; 6-12 weeks for 4" | Keep evenly moist and well drained. | 200 ppm N | Day 58-65F. | Generally not needed. | None needed. | Aphids, whiteflies; root rot, botrytis, powdery mildew. | Long flowering, fast-growing, perennial with an average height of 6-18" that produces purple stems with gray-green, foliage and violet flower spikes from June to October. Excellent for cut flowers, as an addition to a perennial garden, or in containers. Also attractive to bees, butterflies and humming birds. |

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| Scabiosa columbaria (Pincushion Flower) | Butterfly Blue | Violet-blue | Late spring to early fall. | Drought tolerant once established. Zone 4-9. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 8-10 weeks for 4-6" pot. | Keep evenly moist and well drained. | 200 ppm N | Day 65-75F. Night 45-55F. | Not necessary. | None needed. | Aphids, whiteflies; root rot if grown too wet. | Low mounding, ferny, gray-green foliage with delicate, lavender-blue, pincushion flowers that average 12-18" tall and bloom from early summer to late fall. Great for containers, mass plantings, edgings and borders, and small floral arrangements; also attractive to butterflies. |
| Scabiosa columbaria (Pincushion Flower) | Pink Mist (PAT) | Light Pink | Late spring to early fall. | Drought tolerant once established. Zone 4-9. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 8-10 weeks for 4-6" pot. | Keep evenly moist and well drained. | 200 ppm N | Day 65-75F. Night 45-55F. | Not necessary. | None needed. | Aphids, whiteflies; root rot if grown too wet. | Low mounding, ferny, gray-green foliage with delicate, pink, pincushion flowers that average 12-18" tall and bloom from early summer to late fall. Great for containers, mass plantings, edgings and borders, and small floral arrangements; also attractive to butterflies. |
| Sedum spectabile (Stone Crop) | Brilliant | Bright Pink | L.summer-Fall | Heat and drought tolerant. Zone 3-9. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 5-7 weeks for 4" to 6"/1GI. Pot. | Keep evenly moist and well drained. | 200 ppm N | Day 68-75F. | One soft pinch one week after liner planting. | None needed. | Aphids; crown rot if kept too wet, leaf spot. | Succulent, grayish-green foliage topped with clusters of bright pink to reddish purple blooms. This slightly spreading, fast growing variety averages 18-24" tall and 18" wide. Wonderful when combined with perennial grasses or used as a perennial border. Also great for flower drying, containers, edging, or rock gardens. Attracts butterflies and bees. |
| Sedum (Live-Forever) (Stone Crop) | Vera Jameson | Pink | L.summer-Fall | Heat and drought tolerant. Zone 3-9. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 5-7 weeks for 4" to 6"/1GI. Pot. | Keep evenly moist and well drained. | 200 ppm N | Day 68-75F. | One soft pinch one week after liner planting. | None needed. | Aphids; crown rot if kept too wet, leaf spot. | Succulent, purple/red foliage with purple stems and star-shaped rose-pink blooms. This spreading, fast growing, variety averages 6-8" high with a spread of 12". Wonderful clump forming groundcover that attracts butterflies and bees. Also great for flower drying, containers, edging, or rock gardens. |
| Sedum spurium (Stone Crop) | Dragon's Blood | Dark red | Summer | Heat and drought tolerant. Zone 3-9. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 5-7 weeks for 4" to 6"/1GI. Pot. | Keep evenly moist and well drained. | 200 ppm N | Day 68-75F. | One soft pinch one week after liner planting. | None needed. | Aphids; crown rot if kept too wet, leaf spot. | Fast growing groundcover with bronze, succulent, needle-like leaves and brilliant red flowers. Forms a dense mat border or edging, or makes a wonderful spreading groundcover averaging 3-6" tall. Excellent groundcover for sandy, dry areas and rock gardens. |
| Sedum X (Showy Stone Crop) | Autumn Joy | Salmon Red | Summer-Fall | Heat and drought tolerant. Zone 3-9. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 5-7 weeks for 4" to 6"/1GI. Pot. | Keep evenly moist and well drained. | 200 ppm N | Day 68-75F. | One soft pinch one week after liner planting. | None needed. | Aphids; crown rot if kept too wet, leaf spot. | Clump forming, easy to grow upright, averaging 18" tall, with succulent, dark green leaves and umbrella-like, pink to rosy-red flower heads. Great for perennial beds, borders, or cut flowers. Also disease resistant, and attractive to butterflies and bees. |
| Thymus citriodorus (Lemon Thyme) | Arueus | Lavender-pink | Early-mid summer | Zone 4-9. | Full sun to light shade. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 6-8 weeks for 4" to 6"/1GI. Pot. | Keep evenly moist and well drained. | 200 ppm N | Day 68-75F. | One soft pinch one week after liner planting. | None needed. | Scout for normal greenhouse pests. | Groundcover with lemon-scented foliage and small lavender pink blooms averaging 6-8" tall with a considerable spread. Wonderful as an ornamental groundcover or as culinary thyme. |
| Thymus lanuginosus | Woolly Thyme | Pink | Summer | Zone 6-11. | Full sun to light shade. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 6-8 weeks for 4" to 6"/1GI. Pot. | Keep evenly moist and well drained. | 200 ppm N | Day 68-75F. | One soft pinch one week after liner planting. | None needed. | Scout for normal greenhouse pests. | Low maintenance, mat forming, evergreen foliage with tiny gray woolly leaves. This variety rarely flowers and is great for high traffic areas or between flagstones. |
| Veronica spicata (Speedwell) | Goodness Grows | Violet-blue | E.summer | Zone 3-9. | Full sun to part shade. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 5-6 weeks for 4" | Keep evenly moist and well drained. | 100-200 ppm N | Day 68-75F. | Generally not needed. | None needed. | Scout for normal greenhouse pests. | Long-blooming, upright perennial with deep green foliage and tall spikes of dark blue flowers from June to Sept. With an average height of 12" it is great in containers for height, or in mass plantings around borders. This mounded, easy to grow perennial will spread 12-18" and also makes an excellent, deer-resistant groundcover. |
| Veronica spicata (Rose) | Red Fox | Rose-red | Summer | Zone 3-7. | Full sun to part shade. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 5-6 weeks for 4" | Keep evenly moist and well drained. | 100-200 ppm N | Day 68-75F. | Generally not needed. | None needed. | Scout for normal greenhouse pests. | Long summer bloomer averaging 15-18" tall with deep, rose-red spikes of blooms and glossy leaves that produce a graceful, upright habit that will stay erect and require no staking. Excellent for cut flowers, or a wonderful addition to any perennial garden or mixed planting. |
| Veronica spicata (Speedwell) | Sunny Border Blue | Dark violet-blue | Summer | Zone 3-8. | Full sun. | 5,000 to 8,000 ft. candles. | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 1 Gallon; 5-6 weeks for 4" | Keep evenly moist and well drained. | 100-200 ppm N | Day 68-75F. | Generally not needed. | None needed. | Scout for normal greenhouse pests. | Undemanding perennial, averaging 18" tall, featuring exceptional vigor and dense, glossy green foliage with long flowering, spikes of violet blue blooms that are attractive to hummingbirds, bees and butterflies. This hybrid makes a great addition to rock gardens, perennial gardens, containers, or can be used for cut flowers. |
| Vinca | Lemon Lime (PAT) | Blue | Spring | Good heat tolerance. | Full sun to shade. | 4,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 8-10"; 5-6 weeks for 4-6" | Keep evenly moist, but not consistently wet. | 200-250 ppm N | Day 65-80F. Night 55-65F. | Optional. | None needed. | Scout for normal greenhouse pests. General preventative measures are usually adequate. Drench with broad-spectrum fungicides at liner planting. | Unique variegated foliage with lime green leaf center, produces light purple flowers through spring. Use in landscapes, or as an accent plant in baskets, pots, containers or mixed plantings. |

| Genus | Variety | Bloom Color | Bloom Season | Tolerance | Light | foot-candle | PPP | Finish Time | Water | Fertilizer | Temperature | Pinch | Growth-regulator | Pests | Description |
|-------------|-------------------------------|-------------|--------------|----------------------|--------------------|----------------------------|------------------------------|---|--|---------------|------------------------------|-----------|------------------|---|--|
| Vinca major | Green | Blue | Spring | Good heat tolerance. | Full sun to shade. | 4,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 8-10"; 5-6 weeks for 4-6" | Keep evenly moist, but not consistently wet. | 200-250 ppm N | Day 65-80F. Night 55-65F. | Optional. | None needed. | Scout for normal greenhouse pests. General preventative measures are usually adequate. Drench with broad-spectrum fungicides at liner planting. | Unique variegated foliage with lime green leaf center, produces light purple flowers through spring. Use in landscapes, or as an accent plant in baskets, pots, containers or mixed plantings. |
| Vinca major | Maculata | Blue | Spring | Good heat tolerance. | Full sun to shade. | 4,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 8-10"; 5-6 weeks for 4-6" | Keep evenly moist, but not consistently wet. | 200-250 ppm N | Day 65-80F. Night 55-65F. | Optional. | None needed. | Scout for normal greenhouse pests. General preventative measures are usually adequate. Drench with broad-spectrum fungicides at liner planting. | Unique variegated foliage with lime green leaf center, produces light purple flowers through spring. Use in landscapes, or as an accent plant in baskets, pots, containers or mixed plantings. |
| Vinca minor | Bowles | Blue | Spring | Good heat tolerance. | Full sun to shade. | 4,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 8-10"; 5-6 weeks for 4-6" | Keep evenly moist, but not consistently wet. | 200-250 ppm N | Day 65-75F. Night 50-55F. | Optional. | None needed. | Scout for normal greenhouse pests. General preventative measures are usually adequate. Drench with broad-spectrum fungicides at liner planting. | Vigorous creamy yellow and green variegated foliage that grows and establishes quickly. Use in landscapes, or as an accent plant in baskets, pots or containers. |
| Vinca minor | Illumination ^(PAT) | Blue | Spring | Good heat tolerance. | Full sun to shade. | 4,000 to 8,000 ft. candles | 1ppp 4", 1-3ppp 6" or Gallon | 10-12 weeks for 8-10"; 5-6 weeks for 4-6" | Keep evenly moist, but not consistently wet. | 200-250 ppm N | Day 65-75F. Night 50-55F. | Optional. | None needed. | Scout for normal greenhouse pests. General preventative measures are usually adequate. Drench with broad-spectrum fungicides at liner planting. | Vigorous creamy yellow and green variegated foliage that grows and establishes quickly. Use in landscapes, or as an accent plant in baskets, pots or containers. |