

# 2018 AHS SEED EXCHANGE CATALOG

The following seeds were donated by AHS members, organizations, and seed companies from all over the country. The description supplied for each plant combines published information about the species with details supplied by the donors. Remember, named cultivars do not always come true from seed, so you may observe some variation among seedlings. Unless otherwise stated, plants grown from these seeds will grow best in full sun and well-drained, moderately fertile soil.

Conditioning cycles (also known as stratification) should be two months unless otherwise stated. Warm conditioning, where recommended, should be done at about 70° Fahrenheit (F); cold conditioning at 40°F. A “warm soil” is one that has reached a temperature of at least 65°F. U.S. Department of Agriculture (USDA) Plant-Hardiness and AHS Plant Heat Zone ratings tend to be conservative; plants may grow outside the ranges indicated. A USDA zone rating of 0-0 means that the plant is a true annual; it completes its life cycle and dies in a year or less. Germination times will vary depending on the temperature at which seeds are sown and the age of the seeds. Where exposing seeds to a conditioning cycle is recommended, the germination time given is after completion of the conditioning period.

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## ANNUALS & BIENNIALS

- 1 *Alcea rosea* ‘Nigra’ or ‘Black Watchman’.** Common hollyhock cultivars. Height: 5–7 feet. Spread: 2 feet. Vigorous, upright biennial or short lived perennial. Single, dark maroon blossoms and shallow lobed, alternate leaves. Deadhead to encourage rebloom. Indoors, sow 6–8 weeks before last frost and transplant after last frost. Outdoors, sow in mid-spring barely covering seeds. Hollyhocks germinate best in cool temperatures (55–60°F). Germinates in 1–2 weeks. Mediterranean. Zones 3–9, 10–3.
- 2 *Alcea rosea*.** Common hollyhock. Height: 4–6 feet. Spread: 2 feet. Single flowers in a mix of colors. For culture and germination requirements, see entry 1.
- 3 *Alcea rosea*.** Common hollyhock. Height: 4–8 feet. Spread: 2 feet. Double flowers in a mix of colors. For culture and germination requirements, see entry 1.
- 4 *Amaranthus caudatus*.** Love-lies-bleeding, kiss-me-over-the-garden-gate, tassel flower. Height: 3–5 feet. Spread: 1 foot. A bushy erect annual or short-lived perennial adorned by vivid red tassellike flowers that last for weeks in summer. The young leaves and seeds are edible. Sow in warm soil, barely covered. Will self-sow. Germinates in 1–2 weeks. South America. Zones 10–11, 12–1.

**5 *Calendula officinalis* Pacific Beauty Series mix.** Pot marigold. Height: 2 feet. Spread: 1–1½ feet. Longtime garden favorite with thick, oblong leaves and solitary, showy flowers in shades from cream, to apricot, to orange. Blooms from May to September, but can lag during hot summers. Deadhead to extend season. Grows best in well-drained, moderately fertile soils in sun or part shade. Sow outdoors in spring. Germinates in 6–14 days. Mediterranean. Zones 0–0, 7–1.

**6 *Callistephus chinensis* Early Charm Series mix.** China aster. Height: 1½–2 feet. Spread: 1 foot. Erect, bushy, fast-growing annual bears fragrant double chrysanthemumlike flowers in shades of red, coral-apricot, pink, light blue, and near white. Blooms mid- to late summer and deadheading encourages repeat blooms. Sow indoors 6 weeks before first frost or outdoors in mid-spring in sun to part shade. Will self-sow. Germinates in 10–14 days. China. Zones 0–0, 9–1.

**7 *Cleome hassleriana* Queen Series mix.** Cleome, spider flower. Height: 3–6 feet. Spread: 2 feet. Numerous white to rose-pink flowers with long stamens give a spiderlike effect from summer to frost. A multi-branched plant with palmate compound leaves. Start indoors two weeks before last frost. Transplant after danger of frost is past. Self-sows prolifically. Germinates in 7–10 days. South America. Zones 11, 12–1.

## Donation Levels

Current AHS members can order up to 5 packets of seeds free of charge, but we do suggest a \$5 voluntary contribution to help defray postage and handling costs.

Donors at the **\$10 level** can select up to 10 packets of seeds and also receive a free copy of the **2018 AHS RECIPROCAL ADMISSIONS PROGRAM (RAP) GUIDE**, which details the benefits AHS members receive at 300 public gardens around the country.

For a **\$20 donation**, you can select up to 20 seed packets and receive a copy of the 2018 RAP Guide.

## TO ORDER SEEDS

Place your order online at [www.ahsgardening.org/seeds](http://www.ahsgardening.org/seeds) or download a printable order form to mail in. The deadline for ordering seeds is **March 10, 2018**. Members who donated to the 2018 seed exchange have first choice of seeds, but we must receive these orders postmarked by **February 18, 2018**.

- 8 *Cleome hassleriana* ‘Purple Queen’.** Cleome, spider flower cultivar. Height: 3–6 feet. Spread: 2 feet. One of the Queen Series but only pale pink to purple flowers. For culture and germination requirements, see entry 7.
- 9 *Consolida ajacis* (syn. *C. ambigua*).** Larkspur. Height: 3–5 feet. Spread: 1 foot. Dense spikes of purple, violet, pink, and white flowers bloom early to late summer along upright stems above fernlike leaves. Grow in sunny, moist, cool conditions; site should receive afternoon shade in warm regions. Sow indoors 6–8 weeks prior to last frost or directly in the garden: In USDA Zone 7 and further south, sow in fall; north of Zone 7 sow in spring. Germinates in 7–10 days. Mediterranean. Zones 0–0, 9–1.
- 10 *Cosmos bipinnatus*.** Mix of ‘Purity’, ‘Daydream’, ‘Picotee’, and ‘Candy Stripe’ cosmos cultivars. Height: 3–6 feet. Spread: 1 foot. Upright, freely branching annual with very finely divided

foliage. 'Purity' is white, 'Daydream' is white with pink centers, 'Picotee' is white with pale pink edges, and 'Candy Stripe' is white with splashes of crimson. Flowers from midsummer through frost. Early pinching produces fuller, stronger plants and deadheading prolongs flowering. Sow outdoors in late spring in full sun. Self-sows. Germinates in 6–10 days. Mexico. Zones 0–0, 12–1.

**11 *Cosmos bipinnatus* 'Dazzler'**. Cosmos cultivar. Height: 4 feet. Spread: 1 foot. Easy-care plants produce brilliant red flowers. For culture and germination requirements, see entry 10.

**12 *Cosmos bipinnatus* 'Sensation'**. Height: 3–6 feet. Spread: 1 foot. Cosmos cultivar. Produces bright white to dark pink flowers sometimes measuring more than 3½ inches across. For culture and germination requirements, see entry 10.

**13 *Cosmos sulphureus***. Cosmos. Height: 3 feet. Spread: 1 foot. Floriferous annual with showy single and double daisylike flowers in yellow, orange, or red above finely lobed foliage. Very heat tolerant. For culture and germination requirements, see entry 10. Central America. Zones 0–0, 12–1.

**14 *Eschscholzia californica* 'Orange'**. California poppy cultivar. Height: 1–1½ feet. Spread: 8 inches. This annual or short-lived perennial has finely divided blue-green foliage and orange poppylike flowers that bloom in spring and again in fall into winter. Flowers fully open in the sun, and will close during cloudy days or if shaded. Drought tolerant. Grows best in free draining sandy or loamy soil. Sow indoors in late winter or outdoors after last frost; in mild winter regions, sow in late summer or fall. Self-sows. Germinates in 1–2 weeks. Oregon to coastal California. Zones 7–9, 10–1.

**15 *Eschscholzia californica* 'Mikado'**. California poppy cultivar. Height: 1 foot. Spread: 6 inches. Deep reddish orange flowers. For culture and germination requirements, see entry 14.

**16 *Helianthus annuus* 'Sunspot Dwarf'**. Dwarf sunflower cultivar. Height: 1–2 feet. Spread: 1 foot. Fast-growing, sturdy plant with dark green, heart-shaped, coarse leaves alternating on thick hairy stems. Produces cheerful yellow flowers up to 10 inches wide with dark centers. Start indoors 4 weeks before last frost or sow outdoors in spring after danger of frost is past. Heat and drought tolerant. Germinates in 10–14 days. Southwestern U.S. and Mexico. Zones 0–0, 12–1.

**17 *Helianthus annuus* 'Evening Sun' or 'Autumn Beauty'**. Sunflower cultivars. Height: 5–6 feet. Spread: 1½ feet. Upright, branching plant may need staking. 'Evening Sun' produces flowers in shades of orange and red. 'Autumn Beauty' has yellow, bronze, and bicolor blooms. Both bloom from midsummer to early fall. For culture and germination requirements, see entry 16.

**18 *Helianthus annuus* 'Velvet Queen' or 'Red Sun'**. Sunflower cultivars. Height: 5–6 feet. Spread: 6 inches. Deep red blooms. For culture and germination requirements, see entry 16.

**19 *Helianthus annuus* 'Mammoth Gray Stripe'**. Sunflower cultivar. Height: 8–10 feet. Spread: 1 foot. Yellow flowers can reach 10 inches across and will bloom from midsummer to early fall. For culture and germination requirements, see entry 16.

**20 *Impatiens balsamina* Camellia Flowered Series mix**. Rose balsam, touch-me-not. Height: 1–2 feet. Spread: 1½ feet. Erect plant with deeply toothed, narrowly lance-shaped or elliptical leaves on succulent stems. In summer to early autumn, cup-shaped, hooded flowers appear in shades of pink, red, and purple. Best planted in part to near full shade. Sow on soil surface, indoors 6 weeks before last frost or outdoors once soil has completely warmed. Self-sows. Germinates in 1 week. Asia. Zones 0–0, 12–1.

**21 *Lathyrus odoratus* 'Little Sweetheart', 'Knee-Hi', or 'Cupid'**. Dwarf sweet pea cultivars. Height: 1–2 feet. Spread: 3–6 inches. Bushy, modest climbers with mid to dark green leaves. 'Little Sweetheart' blooms range in color from red to white to purple. 'Knee-Hi' sweetly scented flowers with slightly wavy wing petals come in a mix of red, blue, pink, and white. 'Cupid' is a strongly scented, pink cultivar. Sweet peas perform best sown directly in the garden. Before planting, nick the seed coat and soak in warm water 24 hours to encourage germination. In warmer climates, provide shade in the heat of the day. In mild climates where ground does not freeze, sow in the fall. In cold winter areas, sow about one month before last frost. Do not allow soil to dry out and keep roots cool. **Caution: All parts of the plant are poisonous if ingested.** Germinates in 12–28 days. Hybrid origin. Zones 0–0, 8–1.

**22 *Lathyrus odoratus***. Sweet pea. Height: 5–8 feet. Spread: 3–18 inches. Vigorous annual climber with fragrant flowers from early spring through midsummer. This mixture, more heat tolerant than some others, will produce solid or bicolored flowers in a variety of red, pink, white, and blue shades. Provide support for climbing. **Caution: All parts of the plant are poisonous if ingested.** For culture and germination requirements, see entry 21.

**23 *Lathyrus odoratus* 'Royal Scarlet'**. Sweet pea cultivar. Height: 2–4 feet. Spread: 6 inches. Brilliant red flowers on vigorous vines. **Caution: All parts of the plant are poisonous if ingested.** For culture and germination requirements, see entry 21.

**24 *Lathyrus odoratus* 'Streamer'**. Sweet pea cultivar. Height: 5–6 feet. Spread: 6 inches. Ruffled white flowers are striped or flecked with

color. **Caution: All parts of the plant are poisonous if ingested.** For culture and germination requirements, see entry 21.

**25 *Lobularia maritima* 'Carpet of Snow'**. Sweet alyssum cultivar. Height: up to 1 foot. Spread: up to 1 foot. White rounded clusters of tiny, sweetly scented flowers blossom on this low-growing tender perennial grown as an annual. Flowers in summer above mounds of small, lance-shaped leaves. Attracts butterflies and bees. Sow outdoors in late spring. Germinates in 1–2 weeks. Mediterranean, Canary Islands. Zones 10–11, 12–1.

**26 *Lunaria annua***. Money plant, honesty, silver dollar. Height: 2–3 feet. Spread: 1 foot. Hardy biennial with heart-shaped, coarsely toothed leaves that bears cross-shaped, rosy pink, white, or purple flowers on tall terminal spikes in late spring to early summer. The coin-shaped, papery fruit—technically a silique—is used in dried arrangements. Tolerates part sun. Outdoors, sow two weeks before last-frost date. Self-sows. Germinates in 3–10 days. Central and Southern Europe. Zones 3–9, 9–1.

**27 *Mirabilis jalapa***. Four o'clocks. Height: 2–3 feet. Spread: 2 feet. Interesting fragrant, tubular flowers come in a mix of solids and bicolors. Fast-growing, bushy, tender perennial grown as an annual will bloom from early to late summer. Flowers open in late afternoon and wither by morning. Sow indoors 4–8 weeks before last frost date, then transplant outdoors into full sun once danger of frost is past. Outdoors, sow in full sun after last frost. Germinates in 7–14 days. Tropical Americas. Zones 10–11, 12–1.

**28 *Mirabilis jalapa* 'Tea Time Rose'**. Four o'clock cultivar. Height: 3 feet. Spread: 1–1½ feet. Cheerful, solid deep pink flowers. For culture and germination requirements, see entry 27.

**29 *Myosotis sylvatica***. Forget-me-not. Height: up to 1 foot. Spread: to 6 inches. Mound-forming biennial or short-lived perennial with soft hairy green leaves. Masses of tiny, bright blue flowers with yellow centers bloom from early spring to midsummer. Thrives in moist soil and dappled shade. Sow indoors, barely covered, 6–8 weeks before last frost, or outdoors in early fall where winters are mild. Germinates in 1–2 weeks. Self-sows and can spread quickly where conditions are ideal. Europe. Zones 5–9, 7–1.

**30 *Nicotiana sylvestris***. Flowering tobacco, woodland tobacco. Height: 3–5 feet. Spread: 1–2 feet. Plant first forms a bold, basal rosette of bright green, sticky leaves up to 2 feet long and then a thick central stalk is topped in midsummer by long, tubular, fragrant white flowers. Tolerates part shade. Sow outdoors in mid-spring. Germinates in 7–21

days. Self-sows. **Caution: All parts of the plant are poisonous.** Argentina. Zones 10–11, 12–1.

**31 *Oenothera biennis***. Evening primrose. Height: 3–5 feet. Spread: 2 feet. Yellow, cup-shaped flowers rise from a rosette of flat basal leaves on this spreading biennial or short-lived perennial. Blooms open in late afternoon or evening from summer to fall. Tolerates part sun. Cold condition or sow outdoors in fall. Do not cover seeds. Germinates in 1–4 weeks. Self-sows. North America. Zones 4–8, 8–1.

**32 *Papaver somniferum* ‘Lauren’s Grape’**. Bread seed poppy cultivar. Height: 3–4 feet. Spread: 1 foot. Short-lived perennial, commonly grown as an annual, with gray-green, serrated leaves. The deep purple flowers, borne on erect stems, bloom in early to midsummer. Flowers are followed by large, gray-brown seedpods that are prized in dried arrangements. Tolerates part sun in warm regions. Sow outdoors, uncovered, just before last-frost date. Self-sows. Germinates in 1–2 weeks. **Caution: All parts of plant are poisonous.** Eurasia. Zones 3–8, 8–1.

**33 *Portulaca grandiflora***. Moss rose. Height: up to 1 foot. Spread: up to 1 foot. A low-growing, somewhat prostrate plant with fleshy, narrow leaves and stems. Diminutive, roselike flowers in a range of colors from yellow to pink and red bloom from early summer to frost. Good for rock gardens, containers, and borders. Sow indoors in early spring, or outdoors after danger of frost. Germinates in 1–3 weeks. Brazil, Argentina, Uruguay. Zones 9–11, 12–1.

**34 *Rudbeckia hirta* ‘Indian Summer’**. Black-eyed Susan cultivar. Height: 1–3 feet. Spread: 1–2 feet. This All-America Selections winner will produce 6- to 9-inch-diameter yellow blooms with brown centers in the first year. Although heat and drought tolerant, it struggles in humidity. Sow outdoors, barely covered, after soil warms in spring. Germinates in 2–3 weeks. Self-sows. Central North America. Zones 3–7, 7–1.

**35 *Tagetes erecta* ‘Crackerjack’**. African marigold cultivar. Height: 2–3 feet. Spread: 1 foot. Compact annual with pinnately compound leaves. This variety blooms from summer to autumn in a mix of fully double, mostly yellow and some orange pompon like flowers up to 4 inches across. Heat and drought tolerant. Deadhead regularly to promote continuous blooming. Sow indoors 4–6 weeks prior to last frost date or outdoors in late spring. Germinates in 1–2 weeks. Hybrid origin. Zones 0–0, 12–1.

**36 *Tagetes patula* ‘Brocade’**. French marigold cultivar. Height: 1–1½ feet. Spread: 6–12 inches. This early-blooming mix includes a variety of yellow, orange, and deep red flowers. For culture and germination requirements, see entry 35.

**37 *Tithonia rotundifolia* ‘Torch’**. Mexican sunflower cultivar. Height: 3–4 feet. Spread: 3 feet. Bushy, erect, multi-branched annual with large oval to triangular, hairy, dark green leaves. Large, daisylike flowers composed of yellow-orange ray petals around orange-yellow central disks are borne midsummer to autumn on long stems. Tolerates heat and drought, but is prone to fungal diseases in areas with high humidity. Attracts pollinators. May need staking. Sow indoors 4–6 weeks before last frost or outdoors once soil warms. Do not cover seeds. Germinates in 1–3 weeks. Central America. Zones 11, 12–1.

**38 *Tropaeolum majus***. Nasturtium. Height: 3 feet. Spread: 1 foot. Annual trailing favorite with rounded, wavy-edged, light green leaves on succulent stems. Single, funnel-shaped, long-spurred gold, orange, salmon, and mahogany flowers bloom from midsummer. Leaves and flowers are edible and young fruits may be pickled. Flowers best in poor soil. Tolerates light or dappled shade and prefers afternoon shade in warmer climates. Sow indoors in early spring in individual pots, or outdoors a week after last frost date. Soak seeds for 24 hours prior to sowing. Germinates in 1–2 weeks. Central and South America. Zones 0–0, 12–1.

**39 *Tropaeolum majus* ‘Glorious Gleam’ or ‘Scarlet Gleam’**. Nasturtium cultivars. Height: 1–2 feet. Spread: 1–2 feet. Semi-double flowers from summer to autumn. ‘Glorious Gleam’ produces bright orange flowers and ‘Scarlet Gleam’ produces vibrant red flowers. For culture and germination requirements, see entry 38.

**40 *Tropaeolum majus* Whirlybird Series mix or Jewel Series mix**. Nasturtium cultivars. Height: 1 foot. Spread: 1 foot. Flowers in a range of warm colors grace this compact, rounded plant from summer to autumn. For culture and germination requirements, see entry 38.

**41 *Tropaeolum minus* ‘Tip Top Mahogany’**. Dwarf nasturtium cultivar. Height: 8–10 inches. Spread: 6 inches. Deep red flowers are held above the dark green leaves. For culture and germination requirements, see entry 38.

**42 *Zinnia elegans***. Zinnia cultivar mix. Height: 3–4 feet. Spread: 1–2 feet. Upright, bushy annual with lance-shaped leaves. This mix produces solid colored, dahlia type flower heads up to 4 inches across on long stems all summer. Deadhead regularly for summer-long flowering. Indoors, sow 4–6 weeks before last frost, and transplant out when danger of frost is past. Outdoors, plant when day and night temperatures are above 50. Germinates in 7–14 days. Mexico, South America. Zones 0–0, 12–1.

**43 *Zinnia elegans* ‘Pumila mix’**. Zinnia cultivar. Height: 1½–2 feet. Spread: 1 foot. Double

flowers in a cheerful mix of colors bloom all summer long. For culture and germination requirements, see entry 42.

**44 *Zinnia elegans* ‘California Giants’**. Zinnia cultivar. Height: 3 feet. Spread: 1 foot. Features 5- to 6-inch-wide, semi-double to double flowers. For culture and germination requirements, see entry 42.

**45 *Zinnia elegans* ‘Peppermint Stick’, ‘Pop Art Golden and Red’, or ‘Whirligig’**. Zinnia cultivars. Height: 2–3 feet. Spread: 6 inches. A mix of flower colors with stripes, splashes, or speckles of contrasting color. For culture and germination requirements, see entry 42.

## PERENNIALS

**46 *Agastache foeniculum***. Anise hyssop, lavender hyssop. Height: 3–5 feet. Spread: 1½–3 feet. Erect, clumping plant bears spikes of tubular pinkish-blue and white flowers in late summer to fall. Its anise scented leaves are green above and downy white below. The leaves can be used in teas and the flowers are edible. Attracts hummingbirds and butterflies. Tolerates part shade and dry to moist soils. Cold condition seeds, uncovered, or sow outdoors in fall. Germinates in 3–8 weeks. Canada and northern U.S. Zones 4–11, 12–5.

**47 *Ageratina altissima* ‘Chocolate’**. (Formerly *Eupatorium rugosum*.) Snakeroot cultivar. Height: 5–6 feet. Spread: 2 feet. Clump forming perennial reaches mature height in 3 to 5 years. Dark purple leaves show the best color in full sun as long as the site has adequate moisture. Small white, compound inflorescences appear in late summer and early autumn on bushy plants. Deadhead to keep this prolific self-seeder under control. Seedlings do not have the consistent purple foliage color of the parent. Cold condition seeds, uncovered, or sow outdoors in fall. **Caution: The leaves and stems are poisonous if ingested.** Germinates in 10–20 days. Eastern North America. Zones 4–8, 8–2.

**48 *Arum italicum* ‘Marmoratum’**. Italian arum cultivar. Height: 1 foot. Spread: 1 foot. This tuberous perennial has arrow- to spear-shaped, mid-green, white-veined leaves up to 14 inches long. The foliage provides fall and winter interest before dying back in late spring. In early summer, pale greenish-white spathes form, followed by spikes of bright orange-red berries that last until new leaves develop. Plant in part to dappled shade. Sow in containers in a cold frame in fall or early winter. Germinates in 1–6 months. Southern Europe and North Africa. Zones 6–9, 9–3.

- 49 *Asclepias syriaca*.** Common milkweed. Height: 3–6 feet. Spread: indefinite. Erect plant with narrow, downy leaves up to 12 inches long. Flowers, which range from pink to purple and are slightly honey scented, bloom in late summer in leaf axils. Good for naturalizing or attracting butterflies; a host plant for monarch butterflies. Spreads by tuberous roots and can become weedy in gardens. Cold condition seeds or sow outdoors in fall. Germinates in 1–3 months. Eastern North America. Zones 3–9, 9–2.
- 50 *Asclepias tuberosa*.** Butterfly weed. Height: 2–3 feet. Spread: 1 foot. Clusters of bright orange flowers bloom from midsummer to fall on erect stems clad in downy, willowlike leaves. Decorative narrow seed capsules ripen in late summer or fall. Thrives in drier, infertile soils and is suited to meadow areas. Attracts butterflies and other pollinators. Sow outdoors in fall or early spring. Does not transplant well due to its deep tap root. Self-sows. Germinates in 7–30 days. Eastern and southern North America. Zones 4–9, 9–2.
- 51 *Baptisia australis* var. *minor*.** Plains false indigo. Height: 1½–2 feet. Spread: 2 feet. Bears many-flowered racemes of dark blue flowers in early summer followed by decorative black seed pods. Plant this low maintenance herbaceous perennial in full sun to part shade. Tolerates clay, dry, and shallow-rocky soil as well as drought once established. Sow in cold frames in fall. Separate the seedlings the following spring for transplanting. Germination time varies. United States. Zones 3–9, 9–1.
- 52 *Coreopsis lanceolata*.** Lanceleaf tickseed. Height: 2 feet. Spread: 1½ feet. Upright plant forms tidy clumps of dark green, lance-shaped leaves. Large, golden-yellow, semi-double, and double flowers with dark yellow centers bloom at the tips of slender stems from early to late summer. Deadhead to extend flowering period. Sow indoors 4–6 weeks prior to last frost. Germinates in 14–21 days. Southern U.S. Zones 4–9, 9–1.
- 53 *Dalea purpurea*.** Purple prairie clover. Height: up to 3 feet. Spread: 1 foot. A legume considered valuable in landscape revegetation efforts, preventing erosion, and for fixing nitrogen in soil. Tiny purple flowers open from the bottom up on conelike heads. The showy flowers appear in midsummer and attract pollinators. Long taproot prevents transplanting but makes plant very drought tolerant. May self-sow. Scarify seeds and sow directly into garden after danger of frost has passed. Germinates in 2–4 weeks. North and South America. Zones 3–8, 12–9.
- 54 *Desmanthus illinoensis*.** Illinois bundle flower. Height: 3–5 feet. Spread: 2–3 feet. A member of the bean family, this perennial features fine, fernlike foliage and small, round, white pomponlike blooms in summer that are followed by unusual “bundled” seed pods that persist into winter. Sow indoors 4–6 weeks before last frost or outdoors after last frost. Germinates in 7–21 days. Central U.S. Zones 5–9, 9–1.
- 55 *Desmodium canadense*.** Dense showy tick trefoil. Height: 3–6 feet. Spread: 2–3 feet. Erect perennial with dense clusters of showy pink or rose-purple pea-like flowers atop slender stems through summer. Hair covers the stems and three-part, compound leaves. Seedpods cling to animal fur or clothing. A larval host plant for several butterflies species. Sow cold-conditioned seed directly outside in spring. Self-sows. Germinates in 10–15 days. Eastern North America. Zones 3–7, 7–1.
- 56 *Echinacea purpurea*.** Purple coneflower. Height: 3–5 feet. Spread: 1½ feet. Erect perennial with hairy stems, hairy ovate basal leaves, and ovate to lance-shaped stem leaves. Flower heads, composed of conical, brown discs surrounded by slightly relaxed purple rays appear from midsummer to early autumn. Seed heads attract wildlife and provide winter interest. Sow outdoors in spring when temperatures reach 55°F, or indoors in late winter after cold conditioning. Divide clumps in spring every 3–4 years. Full sun. Germinates in 10–20 days. Eastern and central U.S. Zones 3–9, 9–1.
- 57 *Echinacea purpurea* ‘White Swan’.** Coneflower cultivar. Height: 1–3 feet. Spread: 1 foot. Produces white flower heads up to 4 ½ inches across composed of white ray petals around prickly, orange-brown central cones. For culture and germination requirements, see entry 56.
- 58 *Gaillardia aristata*.** Blanket flower. Height: 2–3 feet. Spread: 2 feet. A low-growing, sometimes sprawling perennial with finely lance-shaped, hairy leaves. Yellow daisylike flowers with reddish-orange centers bloom from midsummer to fall. Often requires staking. Tolerant of heat, drought, and infertile soil. Attracts butterflies. Self-sows. Sow indoors 8–10 weeks prior to last frost or outdoors in late spring. Germinates in 7–14 days. Western North America. Zones 3–8, 8–1.
- 59 *Helenium autumnale*.** Sneezeweed. Height: 5 feet. Spread: 1½ feet. An erect perennial with elongated, alternate, serrated leaves and daisy-like yellow flowers that bloom late summer to frost. Sow indoors 8–10 weeks before last frost or outdoors in early spring. Germinates in 7–10 days. Eastern North America. Zones 3–8, 8–1.
- 60 *Leucanthemum* ×*superbum* ‘Alaska’** (syn. *Chrysanthemum* ×*superbum*). Shasta daisy cultivar. Height: 3 feet. Spread: 2 feet. Erect, clumping perennial with dark green leaves with serrated edges. The classic daisylike flowers, comprised of bright white ray petals surrounding yellow discs, bloom on stalks above the foliage from early summer to frost. Tolerates part shade. Pinch plants to encourage a fuller shape and deadhead to prolong blooming. Sow indoors in early spring, barely covered in full sun or part shade. Germinates in 1–2 weeks. Hybrid origin. Zones 4–8, 8–1.
- 61 *Liatris pycnostachya*.** Kansas gayfeather, prairie blazing star. Height: 5 feet. Spread: 1½ feet. This biennial or short-lived perennial has a tall, upright habit with 10- to 15-inch linear leaves and 18-inch-long spikes of bright purple flowers from July through September. May require staking. Tolerates heat, drought, and poor soil. Sow indoors or outdoors in spring. Germinates in 3–4 weeks. Central and southeastern U.S. Zones 3–9, 9–2.
- 62 *Lobelia siphilitica*.** Blue cardinal flower. Height: 2–4 feet. Spread: 1 foot. Clump-forming perennial with erect stems and long-lasting, tubular, blue flowers that bloom from late summer to mid-autumn. Tolerates part shade. Self-sows. Cold condition seeds or sow outdoors in fall. Do not cover seeds. Germinates in 14–20 days. Eastern U.S. Zones 4–8, 8–1.
- 63 *Penstemon strictus*.** Rocky Mountain penstemon. Height: 2–3 feet. Spread: 2 feet. Upright plant with spoon shaped basal leaves and long narrow stem leaves. Violet to dark blue flowers bloom on narrow spiky inflorescences in early to midsummer. Tolerates part shade. Sow seeds, lightly covered, in a container of soilless mix and provide alternate cycles of cold and warm conditioning. Seeds can take up to two years to germinate. Wyoming to Arizona, New Mexico. Zones 3–8, 8–1.
- 64 *Platycodon grandiflorus*.** Balloon flower. Height: 2 feet. Spread: 1 foot. Compact, clump-forming perennial with erect, sparsely leaved stems. In summer loose clusters of large balloon-shaped buds open into shallow, bell-shaped, purple-blue flowers. Site in afternoon shade in warm regions. Sow indoors 4–6 weeks before last frost. Germinates in 7–28 days. Eastern Asia. Zones 4–9, 9–1.
- 65 *Rudbeckia fulgida* var. *sullivantii* ‘Goldstrum’.** Black-eyed Susan cultivar. Height: 2 feet. Spread: 1½ feet. This rhizomatous, clump-forming plant has golden yellow, single to semi-double flower heads up to 5 inches across with a dark brown central cone. Flowers bloom on sturdy, upright stems in late summer. Heat and drought tolerant. Sow outdoors, barely covered, after soil warms in spring. Germinates in 7–10 days. South-eastern U.S. Zones 4–9, 9–1.
- 66 *Symphotrichum novae-angliae*.** New England aster. Height: 4–6 feet. Spread: 2 feet. Perennial that produces daisylike flowers with violet-purple rays around a yellow center. Flowers appear from late summer through fall on erect

branched stems clasped by long, narrow leaves. May require staking. Sow indoors in late winter. Germinates in 7–14 days. Eastern and central North America. Zones 4–8, 8–1.

**67 *Veronicastrum virginicum*.** Culver's root. Height: 6 feet. Spread: 2–4 feet. Erect perennial with unbranched stems. Flowers in midsummer to early autumn. Tubular white to pink or bluish purple flowers on upright racemes. Seeds require light and a 2 or 3 month cold moist stratification period to germinate. Germinates in 7–14 days. Northeastern North America. Zones 4–8, 8–3.

## VINES

**68 *Clitoria ternatea*.** Blue pea, butterfly pea. Height: 10 feet. A tender perennial vine or creeper with compound, pinnate, evergreen leaves. Solitary bright blue flowers with white markings bloom from summer to autumn. In spring, soak seeds in lukewarm water for 24 hours before sowing outside in fertile, loamy soil in full sun when night temperatures reach 65°F. Germination is irregular. Tropical Asia. Zones 11, 12–10.

**69 *Convolvulus tricolor* 'Blue Ensign'.** Dwarf bush morning glory cultivar. Height: 1–2 feet. Spread: 1 foot. Bushy low-growing annual with showy funnel-shaped deep blue flowers with concentric yellow and white "eyes" that bloom in late summer to frost. Shelter from cold drying winds. Soak seeds in warm water for 24 hours, then sow outdoors when night temperatures are 50°F or above. Germinates in 7–10 days. Portugal to Greece, North Africa. Zones 0–0, 12–10.

**70 *Convolvulus tricolor* 'Ensign Mix'.** Dwarf bush morning glory cultivar. Height: 1 foot. Spread: 1 foot. Flowering annual produces multi-colored blooms. For culture and germination requirements, see entry 69.

**71 *Ipomoea alba*.** Moonflower. Height: 12–15 feet. Vigorous, twining vines with heart-shaped foliage. Fragrant, white funnel-shaped flowers open in the evening from summer to frost. Self-sows. Scarify seeds or soak in tepid water overnight before sowing outside after last frost date. Germinates in 8–10 days. Tropical America. Zones 0–0, 12–10.

**72 *Ipomoea nil* 'Scarlet O'Hara'.** Morning glory cultivar. Height: 10–15 feet. Fast-growing twining vine with heart-shaped light to mid-green leaves. Funnel-shaped red flowers with white throats bloom from midsummer to frost. Plant in a sheltered spot out of drying winds. Soak seeds in warm water for 24 hours before sowing indoors in late winter, or outdoors after last frost. Germinates in 7–25 days. **Caution: Seeds are poison-**

**ous if ingested.** Garden origin. Zones 0–0, 12–1.

**73 *Ipomoea tricolor* 'Early Call'.** Morning glory cultivar. Height: 5–6 feet. Fast-growing annual twining vine with heart-shaped, light to mid-green leaves. Showy 4- to 5-inch blooms unfurl each morning in pink, magenta, pearly white, chocolate, lavender, and sky blue. Soak seeds in warm water for 24 hours before sowing indoors in late winter, or outdoors after last frost. Self-sows. Germinates in 7–14 days. **Caution: Seeds are poisonous if ingested.** Garden origin. Zones 0–0, 12–1.

**74 *Ipomoea tricolor* 'Heavenly Blue'.** Morning glory cultivar. Height: 10–12 feet. Funnel-shaped azure-blue flowers with white throats bloom from midsummer to frost. Garden origin. For culture and germination requirements, see entry 73.

**75 *Lablab purpureus* 'Purple Hyacinth Bean'.** Hyacinth bean cultivar. Height: 6–20 feet. An ornamental member of the pea family with compound, dark green leaves on twining stems that require support. Clusters of fragrant, 1-inch-long, pinkish-purple flowers bloom from midsummer to fall, followed by decorative purple seed pods. Grown as an annual north of Zone 9. Sow outdoors after last frost. Germinates in 7–25 days. Tropical Africa. Zones 9–11, 12–9.

**76 *Thunbergia alata*.** Black-eyed Susan vine. Height: 8 feet. Twining herbaceous climber has small, arrowhead-shaped leaves with finely toothed margins. From early summer through fall, the vine is covered with sherbet-orange flowers with a brown to purple center. Start indoors in late winter or sow outdoors in spring after soil warms. Germinates in 2–4 weeks. Tropical Africa. Zones 11, 12–10.

## TREES & SHRUBS

**77 *Amorpha canescens*.** Lead plant. Height: 3 feet. Spread: 5 feet. Rounded shrub with pinnate leaves. Small, pealike, dark violet to purple flowers appear in late summer and last into early autumn. In fall sow scarified seed in light, sandy soil in an open frame in full sun to part shade. Transplant in the spring into similar conditions. Germinates in 14–20 days. Central North America. Zones 2–8, 8–1.

**78 *Amorpha fruticosa*.** False indigo. Height: 6–20 feet. Spread: 15 feet. Bright green compound leaves with up to 30 oval to elliptical leaflets per stem cover a shrub that can become lanky over time. The flowers, which bloom in summer on upright spikes, are a purplish blue with orange anthers. Small kidney-shaped seed pods form in fall and sometimes persist into winter. Soak

seeds in warm water for 12 hours before sowing outdoors in early spring. Tolerant of poor, dry, sandy soils. Self-sows and can become invasive. Germinates in 1–2 months. Eastern U.S. Zones 2–8, 8–1.

**79 *Cercis canadensis*.** Eastern redbud. Height: 20–30 feet. Spread: 30 feet. This small deciduous tree produces clusters of small, reddish-purple flowers on its bare trunk and branches in mid-spring before the heart-shaped leaves emerge. Pealike seedpods form in late summer and hang on the tree into winter. Alternate warm and cold conditioning cycles indoors, or sow outdoors in fall. Germinates in 3–5 weeks. Eastern U.S. Zones 4–9, 9–2.

## HERBS

**80 *Allium schoenoprasum*.** Chives. Height: 1–2 feet. Spread: up to 1½ feet. This bulbous perennial herb has edible, cylindrical, hollow leaves with a mild onion flavor. Bell-shaped, white or purple flowers in a dense umbel appear in early summer. Tolerates part shade. Sow outdoors, barely covered, in spring. Germinates in 10–14 days. Matures in 40 days. Europe, Asia, North America. Zones 3–9, 9–5.

**81 *Anethum graveolens*.** Dill. Height: 3 feet. Spread: 1½ foot. An annual herb with feathery, compound bluish green leaves. Tiny, pale yellow flowers appear in flat umbels from July to September. Aromatic leaves and seeds are used to season foods. Attracts beneficial insects. Self-sows. Sow outdoors in early spring after danger of frost. Barely cover seeds. Germinates in 7–21 days. Matures in 40 days. Southwestern Asia to India. Zones 0–0, 11–1.

**82 *Coriandrum sativum*.** Cilantro, coriander. Height: 1 foot. Spread: 1 foot. Pungently aromatic annual with finely divided foliage. Small umbels of white, pink, or lavender flowers bloom in summer. Both the seeds (coriander) and leaves (cilantro) are used as seasonings. Pick leaves throughout the growing season and harvest seed when they change color from green to brown and become pleasantly aromatic. Sow outdoors in early spring and again in late summer for fall crop. Germinates in 1–2 weeks. Matures in 25–40 days. Self-sows. Europe to West Asia. Zones 0–0, 10–1.

**83 *Foeniculum vulgare* var. *azoricum*.** Florence fennel. Height: up to 6 feet. Spread: 1 foot. Deep-rooted perennial usually grown as an annual. Upright stalks form an edible "bulb" at the base, topped with feathery gray-green foliage. The large umbels of yellow-green flowers, which appear in mid- to late summer, produce aromatic,

licorice-flavored seeds that are used in cooking. In spring, sow seeds after danger of frost is past. Caution: Fennel naturalizes easily and is considered invasive in some states. Germinates in 1–2 weeks. Matures in 90 days. South Europe. Zones 4–9, 9–1.

**84 *Foeniculum vulgare* ‘Purpureum’.** Bronze fennel cultivar. Height: 3–5 feet. Spread: 1 foot. Upright, with feathery dark brown to bronze foliage and large umbels of yellow-green flowers in summer. For culture and germination requirements, see entry 83.

**85 *Lavandula angustifolia*.** English lavender. Height: 3 feet. Spread: up to 4 feet. Mounding perennial with narrow, gray-green, fragrant leaves. The aromatic pale to deep purple flower spikes that appear in mid- to late summer are attractive to pollinators. Established plants are drought tolerant. Sow indoors in late winter and transplant seedlings outdoors in early summer. Germinates in 4–6 days. Mediterranean. Zones 5–9, 9–3.

**86 *Lavandula angustifolia* ‘Munstead’.** English lavender cultivar. Height: 18 inches. Spread: 2 feet. Compact cultivar with dense clusters of tubular, lavender-purple, fragrant flowers. Attracts butterflies and bees. For culture and germination requirements, see entry 85.

**87 *Nepeta cataria*.** Catnip. Height: 1–3 feet. Spread: 1½ feet. An upright, perennial rhizomatous member of the mint family with hairy, heart-shaped, gray-green leaves. Tubular white flowers with purple spots bloom in clusters on erect spikes starting in midsummer. Most cats find the scent of the leaves irresistible. Tolerates drought and poor soils. Sow in fall in containers in a cold frame. Germinates in 1–3 weeks. Self-sows and can become invasive. Europe, Asia. Zones 3–7, 7–1.

**88 *Ocimum basilicum*.** Sweet Italian basil. Height: 1–2 feet. Spread: 1 foot. Erect, aromatic plant with branching stems and small, tubular flowers borne on spikes. Prized for flavorful, bright green, 4- to 6-inch-long leaves that have a faint clove-like scent. Sow indoors, uncovered, 4–6 weeks before last frost or outdoors after soil has warmed. Germinates in 7–10 days. Matures in 65–75 days. Tropical and subtropical Asia. Zones 0–0, 12–1.

**89 *Ocimum basilicum* ‘Genovese’.** Sweet Italian basil cultivar. Height: 1½–2½ feet. Spread: 1 foot. This cultivar has glossy green, 2- to 3-inch, very flavorful leaves and is slow to bolt. For culture and germination requirements, see entry 88.

**90 *Ocimum basilicum* ‘Lettuce Leaf’.** Ruffled leaf basil cultivar. Height: 1–2 feet. Spread: 1 foot. Heirloom cultivar has bright green, crinkled, 4- to 6-inch-long leaves that have a slight, clove-like

scent. For culture and germination requirements, see entry 88.

**91 *Origanum majorana*.** Marjoram. Height: 1–2 feet. Spread: 1–1½ feet. This plant forms a mound of aromatic, small-leaved, fuzzy, gray-green sprigs. In early to late summer, tiny white or pink flowers bloom on spikes. The leaves have a sweeter pungency than its cousin, oregano. Can be dried, but tastes best fresh. Drought tolerant. Sow indoors, lightly covered, in early spring, or outdoors after last frost. Germinates in 2–3 weeks. Matures in 60–90 days. Mediterranean. Zones 4–9, 10–2.

**92 *Origanum vulgare*.** Oregano. Height: 1–1½ feet. Spread: 1–3 feet. A vigorous, spreading perennial that bears small clusters of white flowers in midsummer to early autumn. Aromatic oval leaves cover low-growing stems. Leaves can be used fresh or dried. Drought tolerant. Sow indoors, lightly covered, in late winter, or outdoors after last frost date. Germinates in 1–2 weeks. Matures in 60–90 days. Europe. Zones 5–9, 10–2.

**93 *Origanum vulgare* subsp. *hirtum* (syn. *O. heracleoticum*).** Greek oregano. Height and spread: 1–2 feet. True Greek oregano. Hardy perennial with sharply pungent, small round leaves used in Mediterranean and Mexican dishes. White flowers appear from midsummer into fall. Sow indoors, barely covered, in early spring or outdoors after last frost date. Germinates in 7–14 days. Matures in 60–90 days. Mediterranean. Zones 5–9, 10–2.

**94 *Petroselinum crispum* var. *crispum* ‘Moss Curled’.** Curly parsley cultivar. Height and spread: up to 1 foot. Heirloom, clump-forming biennial with dark green, curly leaves used as a seasoning or garnish. Flat umbels of tiny, yellow-green flowers appear in the second summer. Prefers part shade in warm regions otherwise full sun. Soak seeds overnight, then sow indoors in late winter or outdoors after last frost. Germinates in 10–21 days. Matures in 65–75 days. Mediterranean. Zones 5–9, 9–1.

**95 *Petroselinum crispum* var. *neapolitanum*.** Italian flat leaf parsley. Height and spread: up to 1 foot. The flat, dark green leaves of this vigorous heirloom biennial are used as a seasoning or garnish. For culture and germination requirements, see entry 94.

**96 *Petroselinum crispum* var. *neapolitanum* ‘Gigante’.** Giant flat leaf parsley cultivar. Height and spread: 1–2 feet. Biennial herb with large, glossy leaves that have a sweet, mellow flavor. For culture and germination requirements, see entry 94.

**97 *Porophyllum ruderale*.** Papalo, yerba porosa. Height: up to 5 feet. Spread: 3 feet. A fast-growing, upright annual with rounded leaves

that have a flavor similar to cilantro, but stronger. Very tolerant of heat and humidity. Self-sows. Sow indoors 4–6 weeks before last frost date. Germinates in 7–14 days. Central to South America. Zones 0–0, 12–1.

**98 *Rosmarinus officinalis*.** Rosemary. Height: 3–4 feet. Spread: 4–5 feet. Upright, evergreen, shrubby plant has aromatic, gray-green, needle-like leaves commonly used to season foods. Whorls of tubular white or purple flowers appear from mid-spring to early summer and again in fall. Sow outdoors, barely covered, in spring after last-frost date in full sun. Germinates in 2–3 weeks. Mediterranean. Zones 8–11, 12–8.

**99 *Thymus vulgaris*.** Thyme. Height: ½–1 foot. Spread: up to 16 inches. A low-growing perennial that slowly forms a carpet of small, dark green, rounded leaves, which are commonly used fresh or dried to season foods. Whorls of pink to purple flowers appear in late spring to early summer. Drought tolerant. Sow indoors in late winter or outdoors once soil has warmed. Germinates in 2–3 weeks. Europe. Zones 4–9, 9–1.

## VEGETABLES

**100 *Abelmoschus esculentus* ‘Clemson Spineless’.** Heirloom okra cultivar. Height: 3–4 feet. Statuesque plant with branched stems produces hibiscus-like yellow flowers that are followed by spineless, edible pods. Pods are most tender when harvested at 2½–3 inches long. Soak seeds overnight for faster germination, then sow outdoors after soil warms. Germinates in 7–14 days. Matures in 50–60 days. Tropical Asia. Zones 0–0, 11–6.

**101 *Allium ampeloprasum* ‘Striesen’.** Leek cultivar. Height: 1 foot. Spread: 4–6 inches. Large, upright, non-bulbing onion is grown for its mild-flavored stems and leaves. A long-season plant, leeks can be sown outdoors in spring or fall in warmer regions, or started indoors in late winter and transplanted outdoors for fall and winter crops in northern states. Will winter over in mild winter climates. Germinates in 7–14 days. Matures in 100 days. Europe, Asia. Zones 10–11, 7–1.

**102 *Allium cepa* ‘Walla Walla Sweet’.** Sweet slicing onion cultivar. Height: 1–2 feet. Heirloom cultivar bears large, slightly flattened, yellow-fleshed onions that have a mild, sweet flavor. This onion is a “long-day” type that will thrive only in gardens north of latitude 36 degrees (roughly the border between Oklahoma and Kansas). Sow indoors 8 weeks before last frost, or outdoors after last frost. Germinates in 7–14 days. Matures in 100–125 days. Garden origin. Zones 11, 11–2.

- 103 *Allium cepa* 'White Lisbon'**. Bunching onion cultivar. Height: 1–2 feet. This upright onion is a scallion type that doesn't produce a prominent bulb. The entire bulb and stem has a mild onion flavor. Sow indoors 8 weeks before last frost, or outdoors after last frost. Germinates in 7–14 days. Matures in 60–70 days. Northern Hemisphere, central Asia. Zones II, II–2.
- 104 *Allium fistulosum* 'Parade'**. Scallions cultivar. A perennial plant that is similar in flavor to the common onion, but it does not form bulbs and its green upright leaves are hollow. This cultivar has a pleasantly mild flavor. Sow outdoors in spring after last frost for summer harvest, and in summer for fall harvest. Germinates in 10–14 days. Matures in 70 days. China. Zones II, II–1.
- 105 *Beta vulgaris* 'Chioggia'**. Beet cultivar. Height: 12 inches. Italian heirloom beet with interior rings of pink and white. Roots and leaves are edible. Sow presoaked seeds outdoors in early spring, 3–4 weeks before the last-frost date, and in late summer for a fall crop. In mild-winter areas, sow in early fall for a late winter harvest. Suitable for containers. Germinates in 5–25 days. Matures in 50–65 days. Africa, Europe, Asia. Zones 8–9, 9–1.
- 106 *Beta vulgaris* 'Cylindra'**. Beet cultivar. Height: 6–8 inches. The cylindrical shape of the root makes this heirloom beet easy to peel and cut into uniform slices for cooking or canning. The attractive, red-veined, leaves are also edible. Matures in 50 days. For culture and germination requirements, see entry 105.
- 107 *Beta vulgaris* 'Early Wonder' or 'Detroit Dark Red'**. Beet cultivars. Height: 1 foot. 'Early Wonder' is an early maturing, deep red beet. 'Detroit Dark Red' is a garden classic, reliably producing round, deep-red roots that are tender and sweet. The leaves of both cultivars are also edible. For culture and germination requirements, see entry 105.
- 108 *Beta vulgaris* var. *cicla* 'Bright Lights'**. Swiss chard cultivar. Height: 1–2 feet. Chard develops as upright clusters of edible leaves, each supported by a thick central midrib. This cultivar has brightly colored stalks of red, yellow, pink, or orange. Often used as an ornamental or container plant. Sow 3–4 weeks before last-frost date, and in late summer for a fall crop. Stagger sowings every 2 weeks to extend harvest. In frost free areas, sow in early fall for a late-winter harvest. Germinates in 7–14 days. Matures in 45–60 days. Africa, Europe, Asia. Zones 8–9, 9–1.
- 109 *Beta vulgaris* var. *cicla* 'Fordhook'**. Swiss chard cultivar. Height: 2 feet. Develops upright clusters of dark green leaves, each supported by a thick creamy-white stalk. For culture and germination requirements, see entry 108.
- 110 *Beta vulgaris* var. *cicla* 'Ruby Red'**. Swiss chard cultivar. Height: 2 feet. 'Ruby Red' has deep crimson stalks. For culture and germination requirements, see entry 108.
- 111 *Brassica juncea* 'Florida Broadleaf'**. Mustard greens cultivar. Height: 1 foot. Heirloom variety of dark leafy greens that can be eaten raw or cooked. Sow outdoors after last frost, or in fall or winter in mild climates. Stagger sowings to extend harvest season. Germinates in 5–10 days. Matures in 40–60 days. Asia. Zones 9–10, 9–1.
- 112 *Brassica oleracea* 'Early Flat Dutch'**. Cabbage cultivar. Heirloom heat-resistant variety that produces flattened, 6–10 pound heads with green outer leaves and white core. Sow indoors 6–8 weeks before last-frost date, then transplant hardened seedlings outdoors just before the last-frost date. Can also be sown in summer for fall harvest and, south of USDA Zone 8, in early fall for a winter crop. Germinates in 7–21 days. Matures 75 days after transplanting. Europe. Zones 9–10, 8–1.
- 113 *Brassica oleracea* 'Georgia Southern'**. Collards cultivar. Height: 1–3 feet. Developing upright, broad, dark green leaves, this selection is heat tolerant and better suited to warmer regions than standard collard varieties. Flavor improves after first frost. Sow indoors 4–6 weeks before last frost date, or sow outdoors in late summer for a fall crop. Germinates in 7–14 days. Matures in 60–70 days. Mediterranean, Asia. Zones 8–9, 9–1.
- 114 *Brassica oleracea* 'Waltham 29'**. Broccoli cultivar. Height: 1–2 feet. Yields compact heads of blue-green florets with a sweet flavor. Tolerates frost so ideal for late-fall harvesting. Sow indoors 6–8 weeks before last-frost date, then transplant hardened seedlings outdoors just before the last-frost date. Sow in summer for late fall harvest. Germinates in 7–21 days. Matures in 85 days. Europe. Zones 9–10, 8–1.
- 115 *Brassica rapa* 'Purple Top White Globe'**. Turnip cultivar. Height: ½–1 foot. Produces a purple-and-white edible swollen underground stem. The leaves are also edible as greens. Sow outdoors in spring as soon as soil can be worked and again in late summer for a fall crop. Stagger sowings to extend harvest. Germinates in 7–14 days. Matures in 40–60 days. Western Asia, Europe. Zones 8–9, 9–1.
- 116 *Brassica rapa* ssp. *narinosa* 'Rosette'**. Tatsoi cultivar. Height: to 1 foot. Tight rosettes of tender green leaves with white stems can be steamed or stir-fried. Sow seeds outdoors after last frost, or in late summer for fall crop. In mild-winter regions, sow in fall for winter crop. Germinates in 5–10 days. Matures in 20–45 days. Asia. Zones 0–0, 10–1.
- 117 *Capsicum annuum* 'California Wonder'**. Sweet bell pepper cultivar. Height: 2–3 feet. Yields sweet, round bell peppers with a crispy, thick flesh. Green fruits will turn red once fully mature. Sow indoors 4–6 weeks before last frost date. Transplant hardened seedlings outdoors once soil warms. Germinates in 7–21 days. Matures in 120 days. Central and South America. Zones 9–11, 12–1.
- 118 *Capsicum annuum* 'Early Jalapeno'**. Hot pepper cultivar. Height: 2–3 feet. These jalapeno-type peppers reach 2–3 inches long, and will ripen to red if left on the plant to maturity. Matures in 65–70 days. For culture and germination requirements, see entry 117.
- 119 *Citrullus lanatus* 'Sugar Baby'**. Watermelon cultivar. Spread: 6–12 feet. Prized for early fruit set and sweet flavor, each fruit can weigh about 8 pounds at about 8 inches in diameter with a green rind and medium-red flesh. Harvest when underside is yellow. Sow indoors 3–4 weeks before last frost date, then transplant outdoors when soil warms, or sow 1 inch deep outdoors after night temperatures stay above 55°F. Germinates in 5–7 days. Matures in 70–85 days. Africa. Zones 0–0, 12–4.
- 120 *Cucumis melo* 'Charentais', 'Hearts of Gold', or 'Imperial 45'**. Melon cultivars. Spread: 4–8 feet. 'Charentais' is an heirloom casaba melon, closely related to cantaloupe, with a wrinkled rind and orange flesh. The flesh is sweet and fragrant, but not musky like cantaloupe. 'Hearts of Gold' bears nearly round, 3- to 4-pound fruits with a greenish, heavily netted rind. The pinkish orange flesh is firm with an excellent flavor and aroma. Plants are vigorous and blight resistant. 'Imperial 45' tolerates heat and humidity while producing orange fleshed fruits with a small seed cavity. Start indoors in biodegradable pots to prevent transplant shock 4–6 weeks before last frost date and transplant when soil warms in spring, or sow directly outdoors after soil warms. Germinates in 5–10 days. Matures in 120 days. Asia Minor. Zones 0–0, 12–3.
- 121 *Cucumis melo* 'Hale's Best'**. Heirloom cantaloupe cultivar. Spread: 6–12 feet. Known for producing many 3- to 5-pound fruits with orange-pink flesh. Matures in 87 days. For culture and germination requirements, see entry 120.
- 122 *Cucumis melo* 'Honeydew'**. Spread: up to 10 feet. Rounded fruits have light green rind that turns creamy white at maturity. Melons can attain weight of 4–7 pounds with sweet, juicy, green flesh. Matures in 95–115 days. For culture and germination requirements, see entry 120.
- 123 *Cucumis sativus* 'Homemade Pickle' or 'National Pickling'**. Pickling cucumber

cultivars. Spread: 3–5 feet. ‘Homemade Pickle’ is vigorous and disease resistant. High-yielding plants yield smooth dark green fruits perfect for pickling. ‘National Pickling’ is a disease-resistant pickling cucumber variety known for its high yields of 3- to 5-inch-long crispy fruits with thin skins. Sow indoors 4 weeks prior to last frost, or sow outdoors after soil warms. Germinates in 7–10 days. Matures in 55–70 days. Asia, Middle East. Zones 0–0, 12–3.

**124** *Cucumis sativus* ‘Lemon’. Cucumber cultivar. Spread: 4–5 feet. Harvest when skin is pale green with just a hint of yellow for best flavor. Matures in 60 days. For culture and germination requirements, see entry 123.

**125** *Cucumis sativus* ‘Spacemaster’. Slicing cucumber cultivar. Spread: 2–4 feet. A bush-type cucumber that bears a heavy yield of 7- to 8-inch dark green fruits ideal for slicing. Pick regularly to encourage production. Excellent choice for containers. Matures in 60 days. For culture and germination requirements, see entry 123.

**126** *Cucumis sativus* ‘Straight Eight’. Slicing cucumber cultivar. Spread: 8 feet. This vigorous, disease-resistant selection bears very uniform, blunt-ended, dark green, 6- to 8-inch fruits. Matures in 60–70 days. For culture and germination requirements, see entry 123.

**127** *Cucumis sativus* ‘Tendergreen Burpless’. Slicing cucumber cultivar. Spread: 3 feet. Disease-resistant variety produces thin-skinned, green fruits with no bitterness. Best when harvested under 8 inches long. For culture and germination requirements, see entry 123.

**128** *Cucurbita maxima* ‘Atlantic Giant’. Giant pumpkin cultivar. Spread: 4–12 feet. Sprawling vines produce orange-fleshed, 150- to 500-pound pumpkins with a reddish-orange skin. Grows best in loamy or sandy soil. Start indoors 3 weeks before last-frost date and use biodegradable pots to help prevent transplant shock. Outdoors sow 1 inch deep after soil warms. Plant in mounds at least 4 feet apart. Germinates in 7–14 days. Matures in 120 days. Americas. Zones 0–0, 12–1.

**129** *Cucurbita maxima* ‘Jack O’ Lantern’. Pumpkin cultivar. Spread: 4–12 feet. Reliable heirloom produces 4- to 10-pound fruits with smooth, bright orange skin. Matures in 100–110 days. For culture and germination requirements, see entry 128.

**130** *Cucurbita maxima* ‘Waltham Butternut’. Butternut squash cultivar. Spread: 4–6 feet. An All-America Selections winner, this heirloom selection is rated one of the best butternut-style winter squash. Bell-shaped fruits weigh up to 4 pounds and have a creamy tan-colored rind. Sweet, bright orange-colored flesh makes it ideal

for baking as well as for pies. Stores well. Matures in 90 days. For culture and germination requirements, see entry 128.

**131** *Cucurbita pepo* ‘Black Beauty’. Summer squash cultivar. Spread: 4–6 feet. This zucchini produces long, dark green fruits and the blossoms are also edible. Sow indoors 4 weeks prior to last frost or sow seeds one inch deep outdoors once soil warms. Germinates in 7–10 days. Matures in 55–70 days. Americas. Zones 0–0, 12–1.

**132** *Cucurbita pepo* ‘Cocozelle’. Summer squash cultivar. Spread: 5 feet. Produces long, slender, green fruits with light green stripes. Harvest regularly to encourage more fruit set. Matures in 50–60 days. For culture and germination requirements, see entry 131.

**133** *Cucurbita pepo* ‘Dark Green Zucchini’. Summer squash cultivar. Spread: 4–5 feet. Early-producing variety that prolifically yields firm-fleshed, green-skinned, smooth fruit. Best harvested between 6 and 8 inches long. For culture and germination requirements, see entry 131.

**134** *Cucurbita pepo* ‘Early Prolific Straightneck Squash’. Summer squash cultivar. Spread: 2–4 feet. This bush-type, early maturing summer squash produces cylindrical, tapering, lemon-yellow fruits. Matures in 55–70 days. For culture and germination requirements, see entry 131.

**135** *Cucurbita pepo* ‘Golden Scallop’ or ‘Pattypan Green’ summer squash cultivars. Spread: 2–4 feet. Each of these bush-type pattypan squash selections bears 1-pound saucer-shaped fruits with scalloped edges—the difference is that ‘Golden Scallop’ has bright yellow fruit while ‘Pattypan Green’ bears pale green fruits. Harvest fruits when small for best flavor and to encourage more fruit set. Matures in 50–60 days. For culture and germination requirements, see entry 131.

**136** *Cucurbita pepo* ‘New England Sugar Pie’. Winter squash cultivar. Spread: 10 feet or more. This classic Jack-o-lantern style heirloom variety produces globular, bright orange-skinned, ribbed, fruits weighing 4–6 pounds. Its thick, sweet flesh is prized for baking. Matures in 80–105 days. For culture and germination requirements, see entry 131.

**137** *Cucurbita pepo* ‘Vegetable Spaghetti’. Winter squash cultivar. Spread: 8 feet. Mature, yellow-skinned squash has orange-yellow fibrous flesh that when cooked can masquerade as spaghetti. Matures in 50–60 days. For culture and germination requirements, see entry 131.

**138** *Daucus carota* ‘Danvers Half-Long’. Carrot cultivar. Height: 1 foot. This tapered, 6- to 8-inch-long, deep orange, nearly coreless, heirloom orange carrot originated among market

gardeners in Danvers, Massachusetts. Sow outdoors barely covered in deep, loamy soil after last frost date. In mild-winter regions, sow in fall for winter crop. Stagger sowings to extend harvest period. Germinates in 7–21 days. Matures in 50–70 days. Europe. Zones 9–11, 10–1.

**139** *Daucus carota* ‘Royal Chantenay’. Carrot cultivar. Height: ½–1 foot. This variety is well suited for heavy soils and produces tapered, 6–7 inch orange roots. Matures in 70–75 days. For culture and germination requirements, see entry 138.

**140** *Daucus carota* ‘Scarlet Nantes’. Carrot cultivar. Height: 1 foot. Bright orange-red, 6-inch-long, tapered carrots are sweet and crunchy. Stores well. Matures in 65–70 days. For culture and germination requirements, see entry 138.

**141** *Daucus carota* ‘Tendersweet’. Carrot cultivar. Height: 1 foot. ‘Tendersweet’ is a traditional carrot shape with a small core. Harvest when 8–10 inches long. Matures in 70 days. For culture and germination requirements, see entry 138.

**142** *Eruca sativa*. Arugula. Height: 8–10 inches. Spread: 6 inches. A leafy, lettuce-like plant prized for the spicy, peppery flavor of its dark green, 2- to 4-inch leaves. The small yellowish flowers are edible, too. Tends to bolt in summer heat and leaves become very pungent. Sow in early spring as soon as the ground can be worked and reseed every 2 weeks to ensure an ongoing supply. Sow again in late summer for a fall crop. Germinates in 7–10 days. Matures in 21–30 days. Mediterranean. Zones 0–0, 9–1.

**143** *Lactuca sativa*. Lettuce mix. Height: 1 foot. Mix of sweet and tangy lettuce cultivars. Lettuces require a moist, sandy loam and prefers cooler temperatures. Sow outdoors, uncovered, in early spring and again in late summer for fall harvest. Germinates in 1–2 weeks. Matures in 45–70 days. Northern Hemisphere. Zones 0–0, 12–1.

**144** *Lactuca sativa* ‘Garden Babies’ or ‘Jade Gem’. Butterhead lettuce cultivars. Height: 6 inches. Little butterhead rosettes have buttery texture and sweet taste. Perfect for containers. Heat tolerant, slow to bolt. Matures in 60–70 days. For culture and germination requirements, see entry 143.

**145** *Lactuca sativa* ‘Bibb’ or ‘Buttercrunch’. Butterhead lettuce cultivars. Height: 10–15 inches. Spread: 10 inches. These cultivars produce compact heads of medium green outer leaves surrounding white hearts. Delicious, buttery flavor and tender texture. Larger, more heat tolerant, and slower to bolt than other butterhead lettuces. Matures in 60–70 days. For culture and germination requirements, see entry 143.

**146** *Lactuca sativa* 'Parris Island Romaine' or 'Ortolani'. Romaine lettuce cultivars. Height: 15 inches. Spread: 8 inches. Erect, cylindrical heads, crispy midribs, and mild, sweet flavor. For culture and germination requirements, see entry 143.

**147** *Lactuca sativa* 'Black Seeded Simpson'. Looseleaf lettuce cultivar. An early-maturing heirloom variety with light green, crinkly leaves. Easy to grow, slow to bolt, heat and drought tolerant. Matures in 45 days. For culture and germination requirements, see entry 143.

**148** *Lactuca sativa* 'Salad Bowl Green'. Looseleaf lettuce cultivar. Height: 6–12 inches. Spread: 6 inches. A fast-growing variety with good heat tolerance and rosettes of green, wavy, deeply notched leaves. Matures in 25–35 days. For culture and germination requirements, see entry 143.

**149** *Lactuca sativa* 'Salad Bowl Red'. Looseleaf lettuce cultivar. Height: 6–12 inches. Spread: 12 inches. This selection has bronze-red, deeply lobed leaves with excellent flavor. Matures in 40 days. For culture and germination requirements, see entry 143.

**150** *Pastinaca sativa* 'Hollow Crown'. Parsnip cultivar. Height: 1–2 feet. Spread: 4–6 inches. Hardy, cool-season heirloom with tapered, cream-colored roots 1–2 inches in diameter and 4–9 inches long. The roots have a mild, nutty flavor. Store in the garden to harvest through the winter. For best flavor, harvest after first frost. Sow outdoors in early spring as soon as soil can be worked, or in mild-winter regions in early fall for spring harvest. Germinates in 15–20 days. Matures in 100–110 days. Europe. Zones 7–9, 9–1.

**151** *Phaseolus coccineus* 'Scarlet Emperor' and 'Painted Lady'. Mix of runner bean cultivars. Height: 6–8 feet. 'Scarlet Emperor' is a long, twining vine that produces bright red flowers followed by green pods containing large, purple-mottled seeds. 'Painted Lady' has bicolor coral and pink flowers. Pods can be picked immature as string beans or fully mature as shell beans. Sow outdoors 2–4 weeks after last frost. Germinates in 7–14 days. Matures in 70–100 days. Central America. Zones 0–0, 12–1.

**152** *Phaseolus vulgaris* 'Slenderette'. Bush green bean cultivar. Height: 1–2 feet. Spread: 1 foot. This cultivar produces rounded, bright green pods up to 5 inches long that are tender and crunchy. Resistant to bean mosaic and curly top viruses. Germinates in 5–10 days. Matures in 53 days. Garden origin. Zones 0–0, 12–1.

**153** *Physalis philadelphica* 'Purple' and 'Toma Verde'. Tomatillo cultivars. Height: 4–5 feet. Spread: 3 feet. Tomatillos look like large cherry tomatoes wrapped in a thin paper husk. This mix includes heirloom 'Purple' with purple fruit, and 'Toma Verde' characterized by crispy green fruits. Many small, sweet and tangy fruits appear on strong indeterminate vines. Sow indoors 6 weeks prior to last frost date. Transplant outdoors after night temperatures are reliably above 50°F. Harvest when the fruit is plump and papery husk splits. Germinates in 1–2 weeks. Matures in 70–80 days. Mexico, Central America. Zones 11, 8–1.

**154** *Pisum sativum* 'Dwarf Gray Sugar'. Snow pea cultivar. Height: 2–3 feet. Spread: 4 inches. Heirloom variety with purple-red blossoms followed by sweet pods. Pick flat pods regularly. Sow in early spring a month before last frost date or when soil temperatures stay above 40°F. Stagger plantings at 2-week intervals until early summer. Sow in late summer for fall crops. Tolerates light frost. Germinates 1–2 weeks. Matures in 57 days. Mediterranean. Zones 7–9, 8–1.

**155** *Pisum sativum* 'Little Marvel'. Shelling pea cultivar. Height: 2 feet. Spread: 4 inches. Produces 3-inch-long pods filled with 6 or 7 small, plump peas great for fresh eating or freezing. Matures in 60–70 days. For culture and germination requirements, see entry 154.

**156** *Pisum sativum* 'Oregon Giant'. Snow pea cultivar. Height: 2½ feet. Spread: 4 inches. Produces flat pods up to 5 inches long. Matures in 60 days. For culture and germination requirements, see entry 154.

**157** *Pisum sativum* 'Oregon Sugar Pod II'. Snow pea cultivar. Height: 2½ feet. Spread: 4 inches. High-yielding, disease-resistant, vigorous

vine produces stringless, flat, edible pods. Harvest while seeds are still tiny. Provide support. Matures in 68 days. For culture and germination requirements, see entry 154.

**158** *Pisum sativum* 'Sugar Daddy'. Snap pea cultivar. Height: 2–3 feet. Spread: 4 inches. Disease-resistant, high-yielding vine produces an abundance of stringless, sweet snap peas. Matures in 65 days. For culture and germination requirements, see entry 154.

**159** *Pisum sativum* 'Sugar Snap'. Snap pea cultivar. Height: 6–8 feet. Spread: 4 inches. Winner of the All-America Selections Gold Medal in 1979. The entire pod can be eaten and is delicious, tender, and crisp when young. Matures in 72 days. For culture and germination requirements, see entry 154.

**160** *Pisum sativum* 'Wando'. Shelling pea cultivar. Height: 5 feet. Spread: 4 inches. Small pea pods are filled with tiny, super-sweet peas that are excellent eaten fresh, or canned or frozen. Reliable under hot and dry conditions. Provide trellises or stakes. Matures in 68 days. For culture and germination requirements, see entry 154.

**161** *Raphanus sativus* 'Pink Punch'. Radish cultivar. Height: 6 inches. Spread: 2 inches. Magenta on the outside with crisp, white, mild-flavored flesh on the inside. Harvest when roots are the size of large marbles. Sow in spring as soon as soil temperature stays above 40°F. Sow again in 2-week intervals until late spring to prolong harvest. Sow again in late summer for fall harvest. Germinates in 5–10 days. Matures in 28 days. Asia. Zones 0–0, 7–1.

**162** *Raphanus sativus* 'Sparkler'. Radish cultivar. Height: 4–6 inches. Spread: 2 inches. White, juicy, round root is covered by bright scarlet skin with a white tip. Best when harvested at 1 inch in diameter. For culture and germination requirements, see entry 161.

**163** *Solanum lycopersicum* 'Beefsteak'. Slicing tomato cultivar. Height: Indeterminate. Spread: 3 feet. A large, meaty tomato with red fruits often weighing up to a pound. Sow indoors 6–8 weeks

#### THE AHS THANKS THE FOLLOWING INDIVIDUALS AND COMPANIES FOR DONATING SEEDS TO THE 2018 SEED EXCHANGE

**Individuals** Pat Abramson • Alice Allison • Rosco Bergdoll • Pam Brown • Katie Burney • Linda Carpenter • Gayle Chatfield • Laura Child • Richard Criley • Barry Cyphers • Stevie Daniels • William Denton • Susan Doblmaier • David Driver • Christopher Duncan • Jacki Finzel • Marge Fuchs • Gisela Grayson • Kelly Hart • Margaret Hedstrom • Charles Heidgen • Wendy Henrichs • Lynn Hoffman • Linda Holmes • Cathy Jarosz • George Johns • Suzanne Keller • Rose M Lacasse • Olga Martynova • Susan Maslar • Edward Munns Jr. • Marlene Ostertag • Lynn Pappas • Duane Partain • Carol Pulin • Kathryn Reeves • W. Louise Rennecker • Kathlene J. Roberts • Crystal Rogers • Paula Roos • Nadine Smith • Sarah Stone • Terri Thompson • Victoria Villwock • John Weimer • Karen Wheat • Paula Whitlock • Ella May Wulff • Wayne A Yoder • Judith Youngblood • Michelle Zupan

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## 2018 AHS SEED EXCHANGE

before the last frost date. Transplant hardened-off seedlings outdoors after soil warms. Germinates in 7–14 days. Matures in 75–85 days. South America. Zones II, 12–I.

**164** *Solanum lycopersicum* ‘Roma’. Paste tomato cultivar. Height: Determinate, 2–3 feet. Spread: 2 feet. This classic plum-type tomato produces an abundance of bright red, oblong, meaty fruits with few seeds. Excellent for sauces or canning. Matures in 73–80 days. For culture and germination requirements, see entry 163.

**165** *Solanum lycopersicum* ‘San Marzano’. Paste tomato cultivar. Height: Indeterminate. Spread: 3 feet. Famous for dense flesh, few seeds, and strong, sweet flavor. Ripening over slightly longer season than other varieties makes this suitable for warmer climates. Matures in 80 days. For culture and germination requirements, see entry 163.

**166** *Solanum melongena*. Asian eggplant, mixed colors. Height: 3 feet. Erect shrubby plant with green to gray simple leaves that bears drooping violet flowers in late spring, followed in summer by long, skinny, white to purple fruits. Sow indoors 6–10 weeks before last frost date. Transplant when night temperatures are reliably above 55°F. Germinates in 10–21 days. Matures in 65–85 days. Africa, Asia. Zones 0–0, 12–5.

**167** *Solanum melongena* ‘Black Beauty’. Eggplant cultivar. Height: 2–4 feet. Spread 2–3 feet. Attractive purple flowers are followed by dark purple, 1- to 3-pound eggplants that reach 6–7 inches long. Harvest when skin is still shiny. Matures in 55–85 days. For culture and germination requirements, see entry 166.

**168** *Spinacia oleracea* ‘Bloomsdale Long-standing’. Spinach cultivar. Height: up to 1 foot. Spread: 6 inches. Reliable heirloom variety that forms rosettes of crinkly, tender leaves. Slow to bolt. Sow outdoors 4 weeks before last frost. In the fall, sow 8 weeks before first frost. Germinates in 5–10 days. Matures in 45 days. Garden origin. Zones 0–0, 12–I.

**169** **Three Sisters Mix** (‘Jack Be Little’ pumpkin, ‘Rattlesnake’ pole bean, and ‘Rainbow’ ornamental corn). ‘Jack Be Little’ produces orange miniature pumpkins 3 inches in diameter. For culture and germination requirements, see entry 128. ‘Rattlesnake’ grows to 12 feet tall and bears distinctive dark green, 7-inch-long pods streaked with purple. For culture and germination requirements, see entry 152. ‘Rainbow’ corn produces large ears with multi-colored kernels. Matures in 110 days. Sow outdoors 2 weeks after last frost in full sun. Germinates in 1–2 weeks. Zones 0–0, 12–I.

To plant the Three Sisters mix, start with corn. Plant three corn seeds in a mound and space the mounds 3 feet apart. When the corn is 6 inches tall, plant the beans and the pumpkins. Sow 8 bean seeds about 3–4 inches apart in a circle around the base of the corn plant and a couple of pumpkin seeds at the base of each mound.

**170** *Vigna unguiculata* ‘Sea Island Red’. Cowpea, field pea cultivar. Spread: 4 inches. Heirloom legume that produces small, tan-colored dried seeds that have a sweet, rich flavor when cooked. Direct sow after last frost when night temperatures are reliably at or above 55°F. Harvest after the pods have matured, turned yellow or brown and dried but before the pods have split open. Matures in 90 or more days. Germinates in 7–10 days. Africa. Zones 0–0, 12–I. ∞