

# Seed Starting Instructions for 2024 RAMGA Seed Library



<b>Scientific name, Common name</b>	<b>Specific Seed-Sowing Instructions</b>
Abelmoschus esculentus, Okra	Start indoors 3-4 weeks before 1st frost or outdoors when soil temps reach about 65 degrees. Seeds benefit from overnight soaking prior to planting. Sow seeds 1/2" to 1" deep in rows 3' apart.
Achillea borealis, Common Yarrow (white)	To start seed indoors, scatter seeds on the soil's surface, press firmly into the soil, and mist gently with water. They need light to germinate. You can also direct sow yarrow seeds in the fall or early spring.
Alcea rosea, Hollyhock (pink)	Direct sow 1/4-1/2" deep in fall, or start indoors in late winter or early spring. Or direct sow outdoors in early summer. Plant 1/4" deep but needs light to germinate. Soaking seed overnight aids germination.
Alcea rosea, Hollyhock (red)	Direct sow 1/4-1/2" deep in fall, or start indoors in late winter or early spring. Or direct sow outdoors in early summer. Plant 1/4" deep but needs light to germinate. Soaking seed overnight aids germination.
Allium fistulosum, Welsh Onion	Plant 1/4" to 1/2" apart and 1/2" deep. When grown as an annual, sow seeds in early spring for summer use. Takes about 65 days from seed to harvest.
Allium schoenoprasum, Chives	Start Indoors several weeks before last frost or direct sow after all danger of frost. Sow 1/4in deep and 2in apart. Thin to 4-6in in all directions.
Anethum graveolens, Dill 'Bouquet'	Direct sow 1/4" deep in full sun after last frost. Germinates in 10 to 21 days.
Anethum graveolens, Dill 'Mammoth'	Direct sow 1/4" deep in full sun after last frost. Germinates in 10 to 21 days.
Anthemis tinctoria, Golden Chamomile	To sow, cover soil lightly. Sow indoors 8 weeks before setting out. Can direct sow after the last frost.
Aquilegia canadensis, Wild Columbine	Start indoors early fall on surface of planting medium. Germination in 2-4 weeks. Transplant in April. Or direct sow in fall or early spring. Requires moist cold treatment and light to germinate.
Artemisia dracunculus, Russian Tarragon	Start indoors 6-8 weeks before the last frost, need light to germinate. Sow thinly on the surface of potting soil or a well-draining seed-starting mix. Germination usually occurs within 2-4 weeks; thin as needed and transplant outdoors after the last frost.
Aruncus dioicus, Goatsbeard or Goat's Beard	Both male and female plants are required for seeds to set. Plant seeds when freshly harvested. Older seeds need to be stored at 40 degrees for 4 weeks before sowing. Germination will take 2 to 3 weeks at 70 to 75 degrees. Needs light to germinate.
Asclepias incarnata, Swamp Milkweed	Plant seeds directly into the soil in the fall or start your seeds indoors, 4-8 weeks before the average date of last frost.
Asclepias syriaca, Common Milkweed	Plant seeds directly into the soil in the fall or start your seeds indoors, 4-8 weeks before the average date of last frost. Easily spread by seed or root cuttings.
Asclepias tuberosa, Butterfly Weed	Direct sow in the Fall or start indoors (after cold stratification) 4-8 weeks before average date of last frost.

Baptisia australis, Blue False Indigo	For spring sowing, soak the seeds in water for 24-36 hours first (starting with hot water). If you sow Baptisia australis seed in pots, start with 4-inch pots so the seedlings can develop good roots before needing to be transplanted.
Calendula officinalis, Pot Marigold	Start indoors 6-8 weeks before last frost or direct sow 2 weeks before last frost. Cover with 1/4-1/2 inch soil.
Calycanthus floridus, Sweet Shrub	Sweet shrub seeds can be sown in springtime (March or April) in a shady area of the garden or woods edge. Use rich, well-drained loamy soil. Plant seeds 1/4 inch deep and keep soil moist. Stratification for best seed germination.
Celosia plumosa, Plume Pampas (red)	Surface sow indoors 6-8 weeks before last frost and pot up to larger container when first true leaves appear. Harden off and transplant outside when danger of frost has passed. Can also direct seed 1/8" deep after last frost
Celosia plumosa, Plume Pampas (white)	Surface sow indoors 6-8 weeks before last frost and pot up to larger container when first true leaves appear. Harden off and transplant outside when danger of frost has passed. Can also direct seed 1/8" deep after last frost
Celosia plumosa, Plume Pampas (yellow)	Surface sow indoors 6-8 weeks before last frost and pot up to larger container when first true leaves appear. Harden off and transplant outside when danger of frost has passed. Can also direct seed 1/8" deep after last frost
Cephalanthus occidentalis, Buttonbush or Honeyballs	No special seed treatment necessary. Collect seeds in late summer or early fall before the heads dry and fall apart.
Cleome hassleriana, Spider Flower (Pink and White)	Direct sow or start indoors 6-8 weeks before last frost after cold stratification. Press into surface of planting medium; needs light to germinate.
Cleome hassleriana, Spider Flower (Purple and White)	Direct sow or start indoors 6-8 weeks before last frost after cold stratification. Press into surface of planting medium; needs light to germinate.
Clitoria ternatea, Blue Pea, or Butterfly Pea	Start seed indoors about 4 to 6 weeks before last frost, or sow seeds directly outside once soil is warm in the spring.
Conoclinium coelestinum, Blue Mistflower or Hardy Ageratum	Seeds must be sown in fall or cold stratified for 3 weeks to 3 months.
Coreopsis lanceolata, Lanceleaf Coreopsis	Plant seeds directly in the ground just after ground thaws. The seeds require 30 days of cold stratification to break their dormancy. Seed depth can be from soil surface up to 1/8 of an inch. Requires medium amounts of water and good drainage soil.
Coreopsis tinctoria, Plains Coreopsis	Seeds may be sown indoors 6-8 weeks before last spring frost date. Set plants out after last frost or plant seed directly after last frost.
Coreopsis tripteris, Golden Crown, Tall Coreopsis, or Tall Tickseed	Start indoors 6-8 weeks before last frost or direct sow in the fall. Requires cold, moist stratification to germinate. Germinate in 10-15 days.
Coriandrum sativum, Cilantro	Direct sow beginning after last frost thru summer in succession every few weeks. For best success, gently crush outer seed capsule and soak for 24-48 hours before planting.
Cosmos bipinnatus, Cosmos (mixed colors)	Direct sow 1/8" deep or broadcast and gently rake into the soil. Can also be sown indoors 4 weeks before last frost then transplanted to the garden. Thin plants 9-12" apart.
Cosmos sulphureus, Cosmos (orange)	Direct sow 1/8" deep or broadcast and gently rake into the soil. Can also be sown indoors 4 weeks before last frost then transplanted to the garden. Thin plants 9-12" apart.
Cosmos sulphureus, Cosmos (yellow and orange)	Direct sow 1/8" deep or broadcast and gently rake into the soil. Can also be sown indoors 4 weeks before last frost then transplanted to the garden. Thin plants 9-12" apart.

Cucumis sativus, Wisconsin pickling cucumber	Indoors, start 2-4 weeks before last frost, planting ½-1" deep in peat pots to avoid disturbing roots during transplant. Or direct sow no sooner than a week after last frost when air temperature is 65-75 degrees.
Digitalis lutea, Straw Foxglove	Sow seeds directly on ground once soil is warm or start indoors about 4 weeks before last frost. Do not cover; seeds need light to germinate. Seeds will usually germinate in 2 to 4 weeks at 68 degrees.
Dracopis amplexicaulis, Claspng Coneflower	Surface sow seed directly on ground once soil is warm, or start indoors 4-6 weeks before last frost. Needs light to germinate. Sprouts 10-30 days.
Echinacea purpurea, Eastern Purple Coneflower	Plant 1/2" deep. Direct sow in fall or start indoors in spring. Alternatively, can be winter sown directly outdoors. Keep moist until germination occurs in 10-20 days. Grow best with some cold stratification.
Echinacea x hybrids, Mixed Coneflower	Plant 1/2" deep. Direct sow in fall or cold stratify prior to starting indoors in spring. Alternatively, can be winter sown directly outdoors.
Elymus hystrix, Bottle Brush Grass	Sow seeds directly in the garden in the fall or early spring, at a depth of approximately 1/4 inch. Make sure the soil remains consistently moist during germination and initial establishment. The seeds will germinate and establish themselves over time.
Eragrostis spectabilis, Purple Lovegrass	Direct sow by spreading seed on exposed earth in early fall. They require light and cold stratification for germination. Provide either some sand, vermiculite, or some form of sediment to keep them from blowing away in the wind. Water lightly for a couple of weeks
Eruca vesicaria, Arugula	Sow ¼" deep and thin to 2 inches between plants. Start several weeks before the last frost and again in late summer for a fall crop.
Eryngium planum 'Blue Glitter', Sea Holly	Start Indoors 10-16 weeks before last frost. Surface sow with no cover. Bottom water or mist. Transplant outside after last frost. Require a period of cold, moist stratification to germinate.
Eupatorium hyssopifolium, Hyssopleaf Thoroughwort	Requires 8 weeks of cold stratification. Good candidate for winter sowing. Light required for germination so surface sow or cover lightly.
Eupatorium serotinum, Late Boneset	Sow seeds directly on the ground 3 weeks before last frost. Needs light for germination. Requires stratification.
Eurybia divaricata, White Wood Aster	Moisten the soil lightly. Direct sow by scattering several seeds at intervals of 15 to 18 inches. Cover with 1/8" of fine soil.
Eutrochium fistulosum, Hollow Joe Pye Weed	Seeds may be direct-sown in autumn or planted in flats that will receive 6-8 weeks of chilling; or seed may be stratified in the refrigerator and planted in flats or outside in spring.
Eutrochium maculatum 'Gateway', Joe Pye Weed	To direct sow in the fall, scatter seeds across the bed and lightly rake them in. Keep the soil moist until the ground freezes. Start seeds indoors in early spring after 30 days of cold stratification.
Eutrochium purpureum, Sweetscented Joe Pye Weed	Seeds can be started indoors after cold moist stratification, or sown directly into the garden in the fall. Plant seeds at a depth of around 1/4 inch in a well-draining soil mix. Keep the soil consistently moist during germination and initial establishment.
Fagopyrum esculentum, Buckwheat	Direct sow after frost. Scatter the seeds at a rate of one pound per 500 square feet of garden space, then rake them in and water again, or plant roughly half an inch deep and three to four inches apart.
Helianthus angustifolius, Narrow Leaf Sunflower or Swamp Sunflower	Seed can be directly surface sown in late fall or winter or in the spring after cold stratification for 30 days
Hibiscus moscheutos, Rosemallow	Before planting, soak seed in warm water until they sink. Start seed indoor 8 to 10 weeks before last frost, or direct sow in late fall, 1/4" deep.
Iris Domestica, Blackberry Lily	After cold treatment, sow the seed ¼" deep in warm soil (indoors in pots 6-8 weeks before planting outside or in the garden after the danger of frost has passed). Keep the seedbed evenly moist and germination should occur in 1-2 weeks. Will self-seed.

Lablab purpureus, Hyacinth Bean	Start indoors 6-8 weeks before last frost date, or direct sow after last frost, planting 1"-2" deep, 6" apart. Germination is aided by soaking beans overnight.
Lactuca sativa 'Merlot', Looseleaf Lettuce	Plant 1/4" deep as soon as soil can be worked. Can also be started indoors. Germinates in 10 days.
Lactuca sativa 'Merveille des Quatre Saisons', Butterhead lettuce	Direct sow in early spring 1/4 inch deep and thin to 12 inches apart.
Leonotis leonurus, Lion's Tail or Lion's Ear	Start indoors and transplant after frost. Can be direct sown the previous fall for next year's bloom. Self-sows readily.
Lobelia cardinalis, Cardinal Flower	To start indoors, surface sow on moist soil and cover the container with clear plastic. Seeds need light to germinate. Refrigerate for 3 months, checking periodically to make sure the soil is still moist. Remove from your refrigerator 8 to 10 weeks before last frost. Germination should occur within 2 weeks. Will self-seed.
Lobelia siphilitica, Blue Cardinal Flower	Winter sow outdoors, leaving uncovered in full shade through the winter. Check for water as needed. Indoors, sow in pots, cover with plastic, refrigerate for 3-4 weeks, then bring into 70°F in late winter. Cover with a humidity dome or add a light sprinkling of vermiculite to retain humidity until germination occurs. May self-seed.
Lychnis coronaria, Rose Campion	Start indoors approximately 8 to 10 weeks before the last spring frost after three weeks of refrigeration to break dormacy. Will self-seed.
Mirabilis jalapa, Four O'clock	Direct sow after frost, or start indoors 6-8 weeks earlier, pressing lightly into the soil since they need light to germinate. Tubers may be dug and stored over winter. Will self-seed.
Monarda fistulosa, Wild Bergamot	Start seeds indoors on surface of planting medium and germination will take place in 1-2 weeks; transplant when 3-4" high. Seed can also be direct sown in early spring.
Nicotiana sylvestris, Flowering Tobacco	Surface sow the seeds after last frost by lightly pressing into the top of the soil. Barely cover the seed as this plant needs about 12 hours of sunlight to germinate. You can also start the seeds indoors 6-8 weeks before the last frost. Germination occurs between 1 1/2 and 3 weeks.
Oenothera biennis, Evening Primrose	Direct sow on cool soil in late fall after a hard frost to early spring. Needs light to germinate. If sowing indoors, seed will need stratification. Water from bottom as needed.
Penstemon calycosus, Long-sepal Beardtongue	Direct sow in late fall sowing just below soil surface. If planted in spring or started indoors, requires cold stratification.
Penstemon digitalis, Foxglove Beardtongue	Direct sow in late fall sowing just below soil surface. If planted in spring or started indoors, requires cold stratification.
Petroselinum crispum var. neapolitanum, Italian Parsley	Start indoors 6-8 weeks before last spring frost date planting 1/4" deep, or direct sow after last frost date. Soaking in warm water 24-36 hours can improve germination.
Platycodon grandiflorus, Balloon Flower	Start balloon flower seeds indoors 8 weeks before the last frost date or direct sow after last frost. Barely cover the seeds with soil.
Pycnanthemum muticum, Blunt Mountain Mint	Start either indoors or via winter sowing. The tiny seed needs to be surface sown and kept moist.
Pycnanthemum tenuifolium, Narrowleaf Mountain Mint	Start indoors six weeks before the last frost or outside once the soil is warm. Needs light to germinate.
Pycnanthemum virginianum, Virginia or Common Mountain Mint	Start indoors six weeks before the last frost or outside once the soil is warm. Needs light to germinate.
Raphanus sativus, Radish Mix	Direct sow 1/4" to 1/2" deep. Resow every 2 weeks in early spring or late summer.
Ratibida pinnata, Pinnate or Gray-headed Coneflower	Seeds require 30 days of cold stratification or direct sowing in the fall. Planting depth is surface or very light covering.
Rudbeckia hirta, Black-eyed Coneflower	Direct sow in fall on soil surface. If started indoors or planted in spring will require cold stratification.

Rudbeckia maxima, Large Coneflower	Direct sow barely covering in fall. Cold stratification aids in germination if sown in spring or indoors. Will self-seed.
Rudbeckia triloba, Brown-eyed Susan	Can be started indoors 6-8 weeks before last frost or direct sown after last frost. Requires dry stratification to germinate. Germination usually takes 2-3 weeks.
Salvia coccinea 'Lady in Red', Scarlet Sage	Direct sow after frost or start indoors 6-8 weeks earlier planting seeds just below surface. Germinates in 2-3 weeks.
Salvia farinacea, Mealy Cup Sage	Start indoors about 9 weeks before transplanting outdoors. Cover seeds lightly as they need light to germinate.
Scutellaria incana, Downy Skullcap	Sow seeds shallowly in late fall-early winter. If grown indoors requires 60 days of cold stratification. Germinates 2 weeks to 6 months.
Senna marilandica, Maryland Senna	Surface sow outdoors in winter. If propagating in the spring or indoors, the seeds require scarification prior to stratification.
Solidago caesia, Woodland Goldenrod	Direct sow on soil surface in fall or spring, or start indoors 6-8 weeks before the last frost. Benefits from 60 days cold stratification if grown indoors or in spring.
Solidago rigida, Stiff Goldenrod	Direct sow 1/4" deep in the fall after the first frost or in late spring. Indoors start 6-8 weeks before planting date. While stratification is not mandatory for these seeds, it can enhance germination.
Solidago rugosa 'Fireworks', Rough Goldenrod	Sow outdoors shallowly in late fall and keep moist in protected area. If sown indoors requires 60 days cold stratification.
Spinacia oleracea 'Bloomsdale', Spinach	Sow in early spring and late summer in well-worked soil. For baby leaf, sow 3-5 seeds per inch in rows at least 2" apart. For bunching and full size, sow 10 seeds per foot, 1/2" deep in rows 12-18" apart.
Stokesia laevis 'Mary Gregory', Stokes Aster	Direct sow outside in fall or early spring. Indoors start the seeds six to eight weeks before the last spring frost date, barely covering the seeds with soil, since the seeds need light to germinate.
Tagetes erecta, African Marigold	Direct sow soon after last frost 1/4" deep. Or start 4-6 weeks indoors beforehand and transplant after danger of frost has passed spacing 10-12" apart.
Tagetes patula, French Marigold	Direct sow after danger of frost 1/4" deep in sunny location. Germinate in about a week at 70-75 degrees. Can be started indoors for earlier bloom about 10 weeks before outdoor planting.
Tanacetum parthenium, Feverfew	Direct sow on surface of soil in late spring or early summer. If sowing indoors begin 6-8 weeks before last frost and transplant after danger of frost has passed.
Teucrium canadense, Germander	Start indoors after stratification or direct sow in fall barely covering with soil.
Thermopsis villosa, Carolina Lupine	Sow outdoors 1/4" deep in fall or winter. Seed sown indoors requires scarification and soaking to germinate.
Tithonia rotundifolia, Mexican Torch Sunflower	Direct sow two weeks after last frost or when night temperatures reach 60s. Can also be started indoors 6-8 weeks before last frost. Plant seeds on surface or 1/8" deep and keep warm. Germinates in 5-10 days. Thin or transplant to 2 feet apart.
Tragopogon porrifolius, Oyster Plant, Common Salsify	Direct sow late fall or early spring, 1/2" deep. Germinates in 8 to 10 days. Thin to 2' apart.
Verbena hastata, Blue Vervain	Sow seeds 1/8 inch deep and transplant to the garden when seedlings are strong.
Verbena urticifolia, White Vervain	Direct sow on the soil surface in fall. If started indoors or in the spring needs stratification.
Veronicastrum virginicum, Culver's Root	Direct sow in late fall, pressing the seed into the surface of the soil. Requires stratification if grown inside or in spring.
Vigna unguiculata ssp. sesquipedalis, Chinese Red Noodle Bean	Plant 1/2-1" deep after danger of frost. Soaking overnight and using soil inoculant can speed germination. Thin to 6 inches apart. Requires sturdy support.

Zinnia elegans 'Benary's Giant', Zinnias (mixed colors)	Start indoors 4-6 wks before last frost or direct sow after last frost. Plant ¼ " deep. Germinate in 5-10 days.
Zinnia elegans, Common Zinnia (mixed colors)	Start indoors 4-6 wks before last frost or direct sow after last frost. Plant ¼ " deep. Germinate in 5-10 days.
Zizia aurea, Golden Alexanders	Direct sow in fall or cold stratify for 2-3 months and then direct sow on soil surface. Does best in cool soil.