



PROPAGATING PERENNIALS

Most garden perennials can be propagated by division, cuttings or seed. Refer to the chart for information on how specific plants should be propagated.

PROPAGATING PERENNIALS BY DIVISION

For best results choose the healthiest plants for division. Plants that are very old or declining may be difficult to propagate. However if you have an opportunity to secure an unusual perennial or an heirloom, it may be worth the effort. Collect extra divisions to propagate to make up for possible failures.

Plants that flower in the fall are best divided in the spring, when there is about three inches of growth.

Plants that flower in the spring can be divided in early fall (up to the last of September). **Cover fall-divided plants** with evergreen boughs or pine needles after the ground freezes. This prevents later freezing and thawing which can heave shallow rooted plants out of the ground.

These recommended times for dividing perennials are considered *optimum* by leading horticulturists.

Fibrous Root Division

- Clean and cut through the crown or pull off pieces with at least one growing eye or bud.
- When clump division is recommended, cut into larger pieces with several growing eyes.
- Discard any old woody centers that produce few new shoots.
- Replant as soon as possible at the same depth the plant was growing before.

Fleshy Root Division

It is usually necessary to cut through the thick fleshy crowns of perennials such as hostas or astilbe.

- These plants are divided at the end of winter dormant season. (April)
- Lift the plant, clean and remove grass or weeds.
- Divide with a heavy knife, keeping at least one developing eye or bud. If larger plants are wanted, keep several eyes.
- Replant as soon as possible.

Rhizome Root Division

Rhizomes are stems that grow laterally at or above the soil level. (eg. Iris)

- Divide after flowering.
- Lift the clump with a fork, clean off the soil and remove weeds or grass.
- Cut and discard the rhizome sections that are one year or older.
- Cut leaves to a few inches in height and cut back the roots to about 3 inches.
- Replant as soon as possible, placing the rhizome close to soil level.

Peony rhizomes are thick and should be cut into large pieces.

- Divide during the dormant stage in August.
- Cut through the crown leaving three to five well developed eyes.
- Allow to dry out overnight to form a protective layer on cut surface.
- Plant peonies with the crown no deeper than 2 inches below the surface. Deeper planting will inhibit flowering. It may take up to 3 years to establish full blooming after division.

PROPAGATING BY OFFSET OR RUNNERS

Offsets are plantlets that develop at the end of a stem running laterally from the main plant. Roots form where offset stems come into contact with the soil. *Runners* usually creep over the ground on a horizontal stem and rooting occurs at specific nodes.

- Cut the offset or runner plantlets from the mother plant and set into containers of prepared soil.
- Anchor down with a bent wire and allow roots to develop.
- Plants develop quickly. Cut from runner and plant into the garden.

PROPAGATING PERENNIALS WITH CUTTINGS

For best results select the healthiest plants for cuttings. Collect extra cuttings from older or declining perennials to make up for possible failures.

Stem Cuttings

- Prepare a pot or flat that has drainage holes with moistened 1/2 perlite and 1/2 peat moss.
- Select a healthy side shoot which bears the characteristics of the parent plant.
- With a sharp knife cut a 4 to 6 inch shoot 1/4 to 1/2 inch below a leafnode.
- Remove the lowest leaves and dip in rooting hormone.
- Insert into the planting medium.
- After all the cuttings are in place, water to firm the planting medium around the cuttings.
- Make a tent over the cuttings with clear plastic, using wooden stakes to keep the plastic from touching the plants. Plastic domes that fit over standard flats are available at garden centers. These work well over short cuttings. To prevent rot from the collection of excessive moisture, ventilate by propping the dome up an inch to two inches every few days.
- Place the container in indirect light until plants show signs of growth.
- Tug gently to see if they have rooted. Small plants can be transplanted into pots or a special outdoor growing bed until they are large enough to set out in the garden.

Root Cuttings

Certain perennials resent handling but can be propagated with root cuttings during dormant seasons. (eg. Oriental poppies)

- Dig up the roots after the plants have finished their period of active growth, usually in midsummer. Refer to the chart for individual plants.
- Fill a pot or flat that has drainage holes with moist clean sand.
- With a sharp knife, cut the roots into one to two inch pieces. Refer to individual plants in the chart.
- Place the cuttings into the sand and keep moist but not wet.
- Keep the containers of cuttings in a shaded area until roots have developed and there is some top growth.
- Transplant into larger containers until roots and new shoots develop and transplant into the garden when weather permits.

PROPAGATING HERBACEOUS PERENNIALS FROM SEED

Propagating perennials from seed is the fastest and least expensive way to grow large quantities of young plants. However, due to extensive hybridization or cross pollination, your garden perennials will not always produce plants true to form or color. It is best to purchase packaged seed with the common, botanical, and varietal names all listed on the label. Look for packets with the current year stamped on them. Seeds will be more viable and there will be better germination.

- Be sure seed flats or other containers have drainage holes in the bottom.
- Fill the container with a mix of 1/2 peat moss and 1/4 perlite and 1/4 vermiculite or use a commercial soil mix for growing seed. This mix will allow for good drainage and help prevent damping off or root rot.
- Moisten the soil a few hours before planting and remix it lightly just before planting.
- Plant the seeds in rows or scatter lightly over the surface.
- Plant at the depth indicated on the package or if there are no instructions, cover two to three times the size of the seed. Do not cover very fine seed.
- If several types or varieties of seed are being sown in the same container, use a plastic marker with the name of the plant and date of planting. Use a waterproof pen or lead pencil to write on the marker.
- Cover with clear plastic or glass. If using a flat, the plastic domes from a garden store make excellent covers.
- Keep at temperature listed on the seed package or on this chart.
- Once the germinated seedlings have two leaves, fertilize with a liquid fertilizer at half strength. Miracle Gro, Rapid Gro, and Peters Professional Plant Food are examples of fertilizers available for this purpose.
- Transplant seedlings with two sets of true leaves into containers. Water and fertilize on a regular basis and keep in a sheltered area until planting outside. This may take several weeks or months. Growth rates on young perennials vary.

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BOTANICAL & COMMON NAME	HOW OFTEN TO DIVIDE	WHEN TO DIVIDE	METHOD OF DIVISION OR PROPAGATION
<i>Achillea spp</i> (Yarrow)	Every 3 or 4 years	Spring or fall	Fibrous root division. Stem cuttings during the summer. Seed germination 10-14 days at 65-70°F. Do not cover the seed.
<i>Aconitum spp.</i> (Monkshood)	Slow to grow Divide for plant increase	Fall	Divide tuberous roots. Aconitums are poisonous. Wash hands after handling.
<i>Alchemilla vulgaris</i> (Lady's Mantle)	Every 3-4 years. Also for plant increase	Early Spring	Fibrous root division. Seed late winter under lights at 65°F.
<i>Anemone x hybrida</i> (Japanese anemone) (<i>Anemone sylvestris</i>)	When plants cease to bloom. Also for plant increase.	Early Spring	Fibrous root division. Root cuttings during the summer. Seed sown in late winter. Germinates in 5 to 6 weeks at 70°F.
<i>Anthemis tinctoria</i> (Golden marguerite)	Divide after 2 years of flowering	Spring	Fibrous root division. Stem cuttings in Spring. Seed germinates in 1-3 weeks at 70°F.
<i>Aquilegia spp.</i> (Columbine)	Short lived - does not divide easily	-----	Reseeds easily, but for true hybrid colors, use new commercial seed. Sow seed, place in refrigerator for 3 weeks. Seed will germinate in 3-4 weeks at 75°F.
<i>Arabis spp.</i> (Rock cress)	Divide for plant increase	Spring or Fall	Fibrous root division. Stem cuttings after bloom. Seed in early spring under lights.
<i>Armeria maritima</i> (Thrift)	Every 3-4 years	Spring or September	Fibrous root division. Seed, soak seed for 6-8 hours and then germinate at 70°F.
<i>Artemisia spp.</i> (Wormwood)	Every year	Spring or Fall	Fibrous root division. 3-4 in stem cuttings during the summer.
<i>Aruncus spp.</i> (Goats-beard)	For plant increase	Spring	Clump division of deep rootstocks. Fresh seed germinates in 2-3weeks in a warm (70-75°F.), humid area.
<i>Asperula odoratum</i> (Sweet woodruff)	For plant increase or to control growth	Spring	Clump division (several growing buds).
<i>Aster spp.</i> (Michaelmas daisy family)	Every year or two	Spring	Fibrous root division. Plant outside growth and discard the centers of older plants.
<i>Astilbe spp.</i> (Astilbe)	Every 2-3 years, also for plant increase	Early Spring	Needs division for best bloom. Seed is rarely true to type.
<i>Aubrieta deltoidea</i> (Aubrieta)	For plant increase	Early Spring (difficult to divide)	Fibrous root division. Cuttings after bloom. Seeds germinate in about 15 days at 70°F.
<i>Aurina saxatile</i> (Basket of gold)	For plant increase	Fall (difficult to divide)	Soft wood cuttings after growth is a few inches tall. Easy from seed, germinates in 3-4 weeks at 70°F.
<i>Bergenia cordifolia</i> (Bergenia)	Every 3-4 years	Spring	Divide thick rhizome like stems. Dividing will improve the appearance of older plants.
<i>Campanula spp.</i> (Bellflower)	Every 3-4 years	Spring or August	Fibrous root division. Cuttings of nonflowering basal shoots in Spring or Fall. Seed germinates under lights in 2-3 weeks at 70°F. Sow seed in early spring.
<i>Catananche caerulea</i> (Cupid's Dart)	Every year to maintain good specimens	Spring	Fibrous root division. Seed germinates in 2-3 weeks at 70°F.

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<i>Centaurea montana</i> (Perennial Bachelor's Button)	Every 2 years	Spring	Fibrous root division. Can be grown from seed.
<i>Chrysanthemum x coccineum</i> (Pyrethrum) or (Painted daisy)	Every 2-3 years	Spring or August	Clump division (several growing buds). Seed germinates in 3-4 weeks at 70°F. in early spring.
<i>Chrysanthemum x morifolium</i> (Chrysanthemum)	Every year or two	Spring	Fibrous root division. Cuttings in spring or summer. Seed at 70°F. under lights late winter.
<i>Chrysanthemum x superbum</i> (Shasta daisy)	Every 1 to 2 years	Spring	Fibrous root divisions. Seed germinates in 10-14 days at 70°F. Under lights in spring.
<i>Cimicifuga</i> (Snakeroot)	Rarely needs division	Early Spring	Clump division for plant increase.
<i>Convallaria majalis</i> (Lily of the Valley)	Division for plant increase	Spring	Shoots (pips) appear on the rhizomes. Divide when dormant, spring or fall. Can be divided as clumps or single pips.
<i>Coreopsis spp.</i> (Tickweed)	Every 1 or 2 years	Spring	Fibrous root division. Seed grown in early winter will bloom the first year. Seed germinates at 70°F. in 2-3 weeks.
<i>Delphinium elatum</i> (Delphinium)	Often a short lived Plant	Early Spring	Cut clumps with a sharp knife, leaving each clump with a strong stem. Best by seed. Germinates in 3-4 weeks under lights at 65-70°F. Seed planted during winter may bloom first year.
<i>Dianthus spp</i> (Pinks)	Every 2-3 years	Early Spring	Fibrous root division. Cuttings taken in summer. Seed in early spring under lights.
<i>Dicentra exima</i> D. <i>Formosa</i> D. <i>spectabilis</i> (Bleeding heart)	Rarely needs division	Early Spring	Fibrous root division (spring). Root cuttings (early summer). Stem cuttings after flowering. Freeze seed; can take from 30 to 180 days to germinate.
<i>Dictamnus albus</i> (Gas plant)	Resents transplanting or division	-----	Easiest to purchase nursery plants.
<i>Digitalis purpurea</i> (Foxglove)	Usually a biennial	-----	Sow seed outdoors in late spring or early summer for flowering the following year.
<i>Doronicum cordatum</i> (Leopard's-base)	Every 2-4 years	Very early Spring or August	Fibrous root division. Young plants bloom best. Seed germinates at 70°F. (do not cover seed).
<i>Echinacea purpurea</i> (Purple cone-flower)	Every 4 years	Spring	Fibrous root division. Seed does not always come true to type.
<i>Epimedium</i> (Epimedium)	Divide for plant increase	Early spring or late summer	Fibrous root division.
<i>Euphorbia spp.</i> (Euphorbia)	For plant increase	Spring	Divide carefully to prevent damage to roots. Plant seed in early Spring. Germinates in 15-20 days at 65-70°F.
<i>Gaillardia grandiflora</i> (Blanket flower)	Every 1 or 2 years	Early Spring	Fibrous root division. Seed germinates under lights 2-3 weeks at 70°F.
<i>Geranium himalayense</i> (Lilac Cranesbill)	Every 2-4 years	Spring	Fibrous root division. Seed germinates in 3-4 weeks at 70°F.

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<i>Helenium autumnale</i> (Sneezeweed)	Every other year	Spring	Divide into clumps.
<i>Helianthemum nummularium</i> (Sunrose)	Divisions are short lived	-----	1-2 inch cuttings in Spring. Seed germinates in 10-20 days at 75°F.
<i>Helleborus niger</i> (Christmas rose)	Resents disturbance. Rarely needs division	Spring	Separate crowns to create sections with leaf buds. Seed slow. Easiest to buy plants from nurseries.
<i>Hemerocallis</i> (Daylily)	Every 4-6 years	Spring	Separate into segments with roots and at least 3 shoots.
<i>Heuchera sanguinea</i> (Coral bells)	Every 3-4 years.	Spring	Fibrous root division. Leaf cuttings with short segment of stem and petiole - in fall. Seed germinates in 3 weeks when exposed to light at 70°F.
<i>Hosta spp.</i> (Hosta)	As needed for plant increase.	Early spring or early fall	Fleshy root division. Divide into clumps with one to 3 eyes. A wedge can be taken from an established plant, which soon fill back in.
<i>Iberis sempervirens</i> (Candytuft)	Rarely needs division.	Spring-Fall	Fibrous root division. Stem cuttings mid-summer. Seed under lights 60-65°F. for 3 weeks.
<i>Iris spp.</i> (Bearded Iris)	Every 3-4 years.	After flowering up to August	Rhizome root division.
<i>Kniphofia</i> (Red-hot-poker)	Divide only for plant increase.	Spring	In severe climates dig for winter storage. Spring division of thick root stock. These roots take 2-3 years to bloom.
<i>Lamium maculatum</i>	For plant increase.	Spring	Fibrous root division. Stem cuttings in spring may be successful.
<i>Liatris spicata</i> (Tall-gayflower)	Every 3-4 years.	Spring	Tuberous root division. Seed germinates 3-4 weeks at 70°F. Flowers in 2 years from seed.
<i>Linum perenne</i> (Perennial flax)	For plant increase.	Spring or Fall	Clump division. Seed germinates in 3-4 weeks at 50-60°F. Reseeds easily.
<i>Lupinus</i> (Lupine "Russell Hybrids")	Lupine live approximately 4 years.	Early spring (follow directions for cuttings)	Cuttings taken in early spring with a small piece of root or crown attached. Seed should be soaked for 24 hours. Covered seed germinates in 30 days. Blooms 2nd year.
<i>Mertensia virginica</i> (Virginia bluebells)	Divide for plant increase	August-September	Fleshy roots are difficult to divide. Could not find a seed source. Look for plants in nurseries and catalogs.
<i>Monarda didyma</i> (Beebalm)	Every 3 years to control rampant growth	Spring	Fibrous root division. Seed germinates in 2-3 weeks at 65°F.
<i>Oenothera spp.</i> (Sundrops)	For plant increase.	Early spring or fall	Fibrous root division. Stem cuttings late summer.
<i>Paeonia lactiflora</i> (Garden peony)	For plant increase, rarely needs division.	August-Fall	Fibrous root division. Directions for planting peonies is listed under <i>Rhizome Root Division</i> on page 2.
<i>Papaver orientale</i> (Oriental poppy)	For plant increase, rarely needs division.	Early spring or August	4-6 inch root cuttings in early spring or August. Seed germinates in 1-2 weeks at 55°F. Plants will bloom the 2nd year.

BOTANICAL & COMMON NAME	HOW OFTEN TO DIVIDE	WHEN TO DIVIDE	METHOD OF DIVISION OR PROPAGATION
<i>Phlox subulata</i> (Moss pink)	For plant increase. Shallow sparse roots make division difficult	After flowering	Division or layering after flowering. 4-6 inch fall cuttings rooted in sand in a cold frame or greenhouse.
<i>Phlox paniculata</i> (Garden phlox)	For plant increase	Fall	Root cuttings. Cut roots in 2 inch lengths. Place in sand 1/2 inch deep and overwinter.
<i>Physotegia virginiana</i> (False Dragonhead)	Divide often to prevent the plant from becoming invasive	Spring	Fibrous root division. Seeds will germinate in 2-3 weeks at 70°F.
<i>Platycodon grandiflorus</i> (Balloon Flower)	For plant increase only	Spring	Cut off outer sections of thick crown, retaining several buds and as much root as possible. Slow to flower from seed. Seeds germinate in 10-15 days at 70°F.
<i>Primula spp.</i> (Primrose)	For plant increase	After flowering	Fibrous root division (many are easy to divide). Seed should be sown as soon as possible after it ripens.
<i>Pulmonaria saccharata</i> (Bethlehem sage)	For plant increase	Early Summer	Divide in early summer. Follow with heavy watering until plants are established.
<i>Rudbeckia fulgida</i> (Black-eyed Susan)	For plant increase	Spring	Fibrous root division. Seed requires a soil temperature of at least 70°F. for best germination.
<i>Santolina chamaecyathus</i> (Lavender cotton)	-----	-----	Santolina is not considered hardy in Zone 5. Plants can be overwintered in a coldframe. Cuttings can be taken in the spring.
<i>Saxifraga spp.</i>	For plant increase	Spring or Summer	Fibrous root division. Small cuttings can be made with single rosettes after flowering.
<i>Scabiosa caucasica</i> (Pincushion flower)	For plant increase only	Spring or Summer	Fibrous root division. Start seed indoors under lights. Germinates at 70°F. in approximately 2 weeks.
<i>Sedum x 'Autumn Joy'</i> (Tall sedum)	For plant increase	Spring	Clump divisions. Stem cuttings in summer.
<i>Stachys byzantina</i> (Lambs-ear)	Every 4 years	Spring	Clump division in spring. Seeds are available.
<i>Stokesia laevis</i> (Stokes aster)	For plant increase	Spring	Clump division. 2 inch root cuttings in spring.
<i>Thalictrum spp.</i> (Meadowrue)	For plant increase. Divisions are slow to recover	Preferably Spring	Fibrous root division. Seed at 70°F., germinates in 4-6 weeks.
<i>Tradescantia virginiana</i> (Virginia spiderwort)	Every 3-4 years	Spring	Clump division. Seed is available. Follow seed packet directions.
<i>Trollius spp.</i> (Globe flower)	Every 5 years or more	Early spring or August	Fibrous root division. Seed available. Follow seed packet directions. Fresh seed germinates in 3 weeks.
<i>Veronica spp.</i> (Speedwell)	Every 3-4 years	Spring or Fall	Fibrous root division. Stem cuttings in summer. Seed germinates at 60-80°F.
<i>Viola odorata</i> (Sweet violets)	For plant increase	After flowering	Fibrous root division. Fresh seed, covered lightly will germinate at 62°F.
<i>Yucca spp.</i>	For plant increase	Early Spring	Offsets handled as cuttings.