

Dividing Perennials



Perennial division is an often-misunderstood process. What time of year do you divide them? How often? Should you use your fingers or a machete? There is as much folklore and hearsay about dividing perennials as there are varieties. However, the principles of perennial division are quite basic. Understanding why, when, and how perennials need division will help you keep your perennials healthy and rejuvenated for years to come.

Why perennials need division

As mentioned above, the novice gardener thinks of perennials as carefree plants that, once planted, are permanent. For most perennials this is not the case. As perennial plants grow, they send up new shoots around the original plant. They grow new roots as well. Over time, these new roots and shoots crowd each other. This competition for light, water, and nutrients weakens the overall plant. Although the entire perennial clump may appear larger, each individual stem is actually smaller and weaker. You may notice a reduction in flowering. The color of the leaves may become lighter green or yellow. Often, the center of the clump will begin to die. These are all signs that the roots and stems are crowded and the plant needs to be divided.

When to divide perennials

The general rule of thumb is to divide perennials every three years. However, this depends on the perennial and its location. Some perennials, like *Chrysanthemums*, like to be divided every year. Others, like *Gypsophila*, don't like to be divided at all. Plants growing in sunny locations with ample water and nutrients grow faster and therefore need to be divided more often than those in less ideal situations. For this reason, it is often better to rely on careful observation of symptoms described above to decide when to divide.

Once it has been decided that a plant needs to be divided, it is important to do so at the appropriate time of year. Traditionally, this is fall for spring flowering perennials and spring for all flowering perennials. However, growers in northern climates often do all their dividing in the spring. Once again, this is an area of confusion for many gardeners.

What are the facts? The reality is that given enough care and maintenance, both before and after division, perennials can be divided at any time the ground is not frozen. However, there are times and conditions that are more favorable than others. In terms of the plant itself, the best time to divide is immediately after flowering. It is at this time that the plant puts its energy into root growth as opposed to leaf and flower growth. Plants that are divided before flowering often take longer to become established and the current years bloom is reduced.



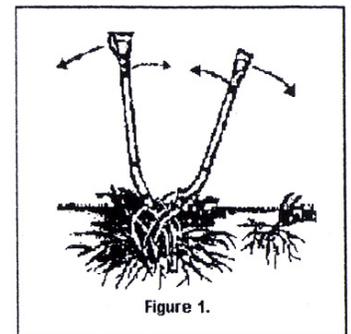
In terms of environmental conditions, it is best to divide perennials when the weather is cool and wet, usually in the spring and fall. This reduces plant dehydration during transplanting which is the largest contributor to plant stress. In regard to northern climates, winter heaving must be taken into consideration. The freezing and thawing of the ground during the winter months can cause plants without established root systems to heave up out of the ground. This exposes the plant's crown to freezing and desiccation and often results in death. Thus, northern growers must leave enough time before the ground freezes for the plant to establish a root system. For most perennials, this is at least six weeks, preferably eight.

What does all this mean for the New York gardener? In most cases, divide spring and summer bloomers in early September, after temperatures have cooled but at least 6-8 weeks, before the ground freezes. Fall blooming perennials should be divided sometime in April, as soon as new growth is detected. While perennials can be divided at other times of the year, growth and flowering are usually negatively affected. In addition, it becomes even more important to follow proper steps before, during, and after division.

How to divide perennials

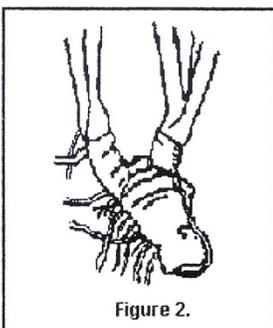
The actual process of dividing perennials is not hard, but there are a few important steps. Most importantly, perennials should not be divided when under undue water stress. This is why hot, dry summer days are not a recommended time for dividing perennials. Try to divide your perennials on a cloudy day. At the very least, divide in the morning when plants have had the night to rehydrate. Water the plant a day before you divide it. Prepare the future bed in advance so the plant's time out of ground is minimized. Roots exposed to air dry out very quickly. If the perennial must be kept out of the ground for an extended period of time, wrap the root ball in wet burlap or cover with a thick layer of moistened mulch, and keep it in a shaded location. It is often a good idea to cut the top growth back to 6 inches. This helps reduce the amount of water lost through the leaves while the roots are getting established.

When digging the perennial, try to keep the root ball intact. Generally, digging 8-12 inches from the crown is ample room. It often helps to fully ring the perennial with the spade before attempting to pry it up. Once the perennial has been lifted, place the root ball in water and gently wash soil from the roots. Remove only enough soil so that the roots can be seen and worked with (removing soil also removes small root hairs that are the most active parts of the roots). Now it is time to divide the plant.



There are three basic root systems on perennial plants: spreading root systems, clumping root systems, and rhizomes. Each one of these is divided slightly differently.

- Perennials with *spreading root systems* spread outward from an original crown. The plant is often shallowly rooted with a wide, fibrous root system. Each new shoot is separate from the original crown with a partially separate root system. These shoots can often be pulled apart by hand into individual plants. Stubborn roots can be pried apart using two garden forks back to back (Fig. 1).



- *Clumping root systems* are much more compact. The root system is often fleshy and thick, growing down more than out. New shoots arise from buds attached to the original crown and root systems are closely intertwined. These plants are best divided by cutting the crown into pieces, each piece with a few buds and their attached roots. A spade or machete works well for this.

- *Rhizomes* are actually thick, fleshy underground stems (Fig. 2). They spread outward from the original plant like spreading root systems. These are best divided using a sharp knife to cut the rhizomes into individual fans with a few buds on each.

Once the plant has been divided, plant the divisions as soon as possible. The future hole should be twice as wide as the root ball and slightly deeper. A fertilizer low in nitrogen (such as 0-10-10) can be added to the hole before planting. Leave whatever soil is remaining on the root ball and place it in the hole, backfilling dirt until the crown sits at or slightly above the previous soil line (after firming and watering, it should sit at its original soil line). Make sure to backfill soil into all the spaces around the roots, and pack it down. It is important not to leave air spaces, as this will kill any roots in the area.

Water the plant well immediately after planting, and keep it well-watered for the next couple weeks. Do not apply a fertilizer with nitrogen until the following year, as nitrogen promotes top growth at the expense of root growth. If you are planting in the fall, it is often a good idea to apply a thick mulch immediately after the ground freezes. The object is to keep the ground frozen until the following spring, thus preventing heaving during winter thaws. Mulch is especially important if you plant in late fall and the plants do not have time to develop new roots.

Most people like to think of perennials as easy, carefree plants. The truth is that neglected perennials bloom less, become smaller, and are more prone to pests and diseases. Along with light, mulch, and nutrient management, perennials benefit from regular division. Properly done, division prevents overcrowding and promotes healthy, new growth. It is also a way for the home gardener to propagate his/her own plants. A little digging in the spring and fall will help keep your perennial gardens lush and full of blooms for years to come.

When and How to Divide Some Common Perennials

| Common Name (<i>Botanical Name</i>) | How Often to Divide | Season to Divide | Method of Division |
|--|--|-----------------------------------|---|
| Asters (<i>Aster</i>) | Every year or two to control spread and maintain vigor | Spring | Spreading root division. Replant outer growth and discard the centers of older plants |
| Astilbe (<i>Astilbe</i>) | Every 2 to 3 years as plants become crowded. | Early spring or fall | Spreading root division. Needs division for best bloom |
| Baby's Breath (<i>Gypsophila</i>) | Do not divide | | Fleshy root division |
| Bearded Iris (<i>Iris</i>) | Every 3 to 4 years. | After flowering – until September | Rhizome root division |
| Beebalm (<i>Monarda</i>) | Every 3 years to control rampant growth | Spring or fall | Spreading root division |
| Bellflower (<i>Campanula</i>) | Every 2 to 3 years or as the plant becomes crowded | Spring or early fall | Spreading root division |
| Black-eyed Susan (<i>Rudbeckia fulgida</i>) | Every 3 to 4 years | Early spring | Spreading root division |
| Blanket Flower (<i>Gaillardia grandiflora</i>) | Every 1 or 2 years to maintain vigor | Early spring | Spreading root division |

When and How to Divide Some Common Perennials (Cont'd)

| Common Name (Botanical Name) | How Often to Divide | Season to Divide | Method of Division |
|---|---|--|---|
| Bleeding Heart (<i>Dicentra</i>) | Rarely needs division | Early spring | Fleshy root division Be gentle with brittle roots. |
| Chrysanthemum (<i>Chrysanthemum</i>) | Every year or two | Spring | Spreading root division |
| Cranesbill (<i>Geranium</i>) | Every 2 to 4 years | Spring or fall | Spreading root division |
| Clematis (<i>Clematis</i>) | Do not divide | | Fleshy root division |
| Daylily (<i>Heemerocallis</i>) | Every 3 to 6 years or as desired to increase stock. | Spring, summer or fall. Ideal time is after bloom is finished | Divide fleshy roots into segments with roots. Divisions with three or more shoots will bloom sooner. |
| False Indigo (<i>Baptisia</i>) | Do not divide | | Fleshy root division |
| Garden Peony (<i>Paeonia</i>) | For plant increase, rarely needs division. Divisions may wait up to 3 years before blooming | September | Divisions should have 3 to 5 well-developed eyes (buds for next year's growth). Plant peonies with the eyes no deeper than 1-inch below the surface |
| Garden Phlox (<i>Phlox paniculata</i>) | Every 3 to 4 years | Fall | Spreading root division |
| Hosta (<i>Hosta</i>) | Rarely need division and will reach their best form if not divided too often. They can be divided as needed for plant increase. | Early spring or early fall | Fleshy root division. Divide into clumps with one to three eyes. A wedge can be taken from an established plant, which will soon fill back in. |
| Lambs-ear (<i>Stachys byzantina</i>) | Every 2 to 3 years | Spring or early fall | Spreading divisions. Discard weak centers. |
| Lily of the Nile (<i>Agapanthus</i>) | When flowering slows due to crowding | Spring, summer or fall | Fleshy clumping roots are large and brittle. Do not divide unless needed to improve bloom. |
| Lily of the Valley (<i>Convallaria majalis</i>) | Divide for plant increase as desired. | Early spring | Can be divided as clumps or single "pips". |
| Lupine (<i>Lupinus</i>) | Do not divide | | Fleshy root division |
| Ornamental Grasses | Every 3 to 4 years | Spring for most grasses. Many grasses do not tolerate fall division. | Very dense, fibrous root system; may require the use of an axe or saw to divide. |
| Purple cone-flower (<i>Echinacea</i>) | Every 4 years | Spring or fall | Spreading root division |

| When and How to Divide Some Common Perennials (Cont'd) | | | |
|---|---|-------------------------|---|
| Common Name <i>(Botanical Name)</i> | How Often to Divide | Season to Divide | Method of Division |
| Red-hot-poker <i>(Kniphofia)</i> | Divide only for plant increase | Spring or fall | Fleshy clumping root system. Divisions may take 2 to 3 years to bloom |
| Tall sedum <i>(Sedum 'Autumn Joy')</i> | For plant increase | Spring | Clump divisions |
| Tickseed <i>(Coreopsis)</i> | Every 1 or 2 years to maintain vigor | Spring or fall | Spreading root division. Discard weak center |
| Wormwoods <i>(Artemisia)</i> | Every year or two for spreading wormwoods like 'Silver King' and 'Valerie Finnis' | Spring | Spreading root division, or remove excess and dead center. Do not divide woody artemesias |
| Yarrow <i>(Achillea)</i> | Every 2 or 3 years or when center dies out | Spring or fall | Spreading root division |

Table excerpted from Clemson University at: <http://hgic.clemson.edu>

Prepared by Karen Russ, HGIC Information Specialist & Bob Polomski, Extension Consumer Horticulturist, Clemson University

9/2001 Prepared by Eric de Long
Community Horticulture Educator
Cornell Cooperative Extension, Chemung County