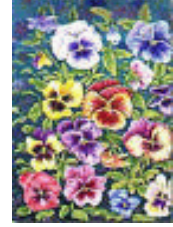


GROWING PANSIES



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Pansies are among the most popular garden flowers today. They exhibit a wide range of colors, markings and sizes.

Although pansies are hardy biennials, they are also grown as annuals. The ideal temperature range for growing pansies is from about 40° F at night to 60° F during the day. They will grow in all parts of the United States. They produce their best flowers in the spring when the weather is mild, then fade and are usually discarded when really hot weather arrives. In areas where long periods without frost are common, strong pansy plants will bloom in the fall and even in the winter.

KINDS OF PANSIES

We read about pansies in the poetry of 16th and 17th century England, but the flowers described are hardly like the ones we know today. In many cases they were the *Viola tricolor*, known since ancient Greek times, a relatively small and simple ancestor of the large and fancy blooms we grow now.

The *Viola tricolor*, so named because it is generally a combination of three colors—white, yellow and either blue or purple—is still grown in some gardens, but with decreasing frequency.

The modern pansy probably represents crosses among the *Viola tricolor* and other members of the *Viola* family. Shortly after 1800, British growers began to breed the now familiar “faces” into pansy flowers, and

to improve color and markings generally. Later, French, Belgian, Swiss and American breeders developed the larger, brighter-colored, fancier varieties that are now available.

Pansies come in named varieties of pure colors and mixtures, as well as first-generation hybrids that are becoming increasingly popular because of plant vigor, uniform color and a wider color range, increased flower size and greater heat resistance.

Pansies nowadays display scores of hues. They range in color from white and pastel shades, rich gold and burnished orange, to deep rose, violet and blue, and even deeper maroons and browns. They may be single-colored, streaked or blotched.

Certain types have petals with crinkled fluffy edges; others do not. Flower size may range from about 1 to 3 inches in diameter, depending on culture.

PLANTING Where to Plant

Pansies are excellent choices for low borders and for bedding. You may place them between other flowers too, especially tulips and other spring bulbs. They will start to bloom soon after the earliest bulbs and will continue until summer flowers take over.



Pansies are also colorful in planters and window boxes.

Place pansies where they will receive the full sun or partial shade. The new types thrive in full sun. Too much shade reduces the number of flowers and flower size, and makes pansies spindly.

Space plants for bedding about 7 to 12 inches apart. Do not plant pansies more than 3 years in a row in the same location because a fungus disease (*Pythium*) builds up in the soil.

When and What to Plant

If you decide to plant seed, and you want plants to bloom as early as possible in the spring, plant the seed in July or August. If you live in the North, where summers are relatively short and cool, plant seed in early July. This is also the time to start seedlings that are to bloom under glass in the winter. Plants will require protection in the North. They are often overwintered in coldframes, and transplanted in the spring to their permanent locations outside.

If you live farther south, sow seeds a little later in July, or in August. In hot weather it usually takes 6 weeks for seeds to become pansy seedlings of a size suitable for transplanting to their permanent locations. Then they should have another month or 6 weeks to become established in their permanent site and to approach blooming size before cold weather arrives. In this way they will winter well and will be ready for early spring bloom.

Instead of planting seed, you can buy pansy seedlings in late summer or fall and set them out about 6 weeks before killing frost. Choose short, stocky pansy seedlings with at least 4 or 5 strong leaves.



You can also buy plants of blooming size in spring, and set them out at that time. These seedlings are usually quite satisfactory and provide many flowers quickly, but you will get stockier plants from seedlings bedded in the fall.

Still another possibility is to start seed in a greenhouse in January or February. Then transfer seedlings to a coldframe in early spring, for summer blossoming. In the greenhouse, keep the night temperature about 55° F and day temperature from 60 to 65° F.



Pansies colorful in boxes and

are window in planters

How to Plant

Sowing Seed

Pansies thrive in rich, well-drained soil. So before you plant seeds, add manure, peat moss or a 5-10-5 commercial fertilizer to the soil. If the soil is heavy, dig in some organic matter. Spade the soil to a depth of 6 to 8 inches. Make sure it is fine, and free of lumps, stones and other coarse materials.

If you plant seed in boxes or frames, you can broadcast the seed or plant it in rows. Select boxes 9 to 12 inches deep, and fill them with rich, sandy loam soil.

If you plant in open beds it is always better to sow seeds in rows about 4 to 6 inches apart, instead of broadcast. This makes it easier for you to identify the seedlings when they emerge, and permits you to cultivate and weed more readily.

Whether you plant indoors or out, in frames

or in open beds, water the seedbed first. Then when the water has drained away, sow the seeds thinly. Cover the seeds with only an eighth of an inch of soil, or coarse washed sand, and press down with a flat board. Water the bed again, but not so much as to wash the seeds away.

White plastic film, aluminum foil or a piece of moist burlap placed on the seed bed will help keep moisture in. This should be removed as soon as the seeds begin to sprout, in about 5 to 8 days. Shade the seedlings with a canopy for a few days until they have developed their first leaves. They can usually stand direct sunlight by that time. The canopy (and it can be a makeshift one) should be a foot or more above the bed to let air circulate.

Water frequently but lightly, in the morning. Seedlings should be neither too dry nor too wet. If seed dries out after it begins to sprout, it will die. But if you keep it too moist, it may rot. Raise the level of bedded soil 2 to 4 inches if necessary to keep water from standing in puddles.

After the seedlings have emerged, thin them to an inch or more apart. You can plant the seedlings you remove in another bed prepared like the one in which you sowed the seeds.

After the seedlings develop 6 or 8 leaves, move them to their permanent locations. Place them 7 to 12 inches apart. In transplanting, try to disturb the roots as little as possible. And be sure to set the plants at the same level in the ground as they were before.

When the ground freezes, apply pine boughs, straw mulch, a lattice frame or white landscaping fabric to minimize temperature variations. Repeated freezing

and thawing is harmful to the plants.

In the North, transplant by early September. Where winters are mild—like Washington, D.C. area winters—transplant later in September or early in October. If you're not sure, ask your garden supplier, or your county Extension agent.

Planting the Seedlings

The planting procedure for seedlings you buy is the same as that for seedlings you have grown from seed. But there are additional steps to follow. When you first get the seedlings, sprinkle them with water and let them stand a short while to restore lost moisture before planting. When you replant them, carefully separate and spread the roots, and water the soil. Press the soil firmly around the plants so that good contact is made with the roots. Don't press soil so tightly that it cakes when it begins to dry.

PROPAGATING PANSIES

In general, it is better for the home gardener to buy seed, seedlings or plants than to attempt to grow his own seed stock. Especially in areas where summers are quite hot and dry, it is best to start with new seedlings each year.

But if you wish to propagate your own pansies you may grow seeds or divide old plants. Taking cuttings is not recommended.

Although you can obtain seed from your own plants, it usually will not produce flowers exactly like the ones on the plant it came from. Moreover, if you allow seed to form, your plants will probably produce fewer and smaller flowers. Some seedlings will volunteer (grow from self-sown seed) in the garden.

Pansy plants from the previous spring, that

have been cut back in late summer or early autumn, can then be divided into several small clumps as a means of propagation. Here again, this propagation method is recommended only as a means of increasing stock of a favorite variety, and is not recommended for pansies in general.

Lift these old plants carefully 6 weeks before first fall frost and break them into clumps. Each plant should retain some new growth and a portion of the roots. Place the clumps in a coldframe to strengthen for 3 or 4 weeks, then plant them in their permanent locations.

Although this method is relatively easy, plants propagated in this way are seldom as vigorous as those grown from good seed or from cuttings.

Again, the best and most successful method for home gardeners is to buy high quality seeds, seedlings, or plants from a reputable dealer.

PANSY CARE

Watering and Fertilizing

The way to succeed in providing moisture for pansies is to water thoroughly once a week with about 1 inch of water during the growing season. Never water in the late afternoon or evening, as this encourages disease development. After transplanting pansy seedlings to their permanent locations in the fall, water plants only after dry periods and when you fertilize.

You should use manure or a 5-10-5 fertilizer to condition the soil prior to planting, as described earlier. Apply it about a week after fall transplanting, then once more in late fall or early winter, and again in March. Avoid high levels of nitrogen—an cause plants to produce soft foliage and to rot

easily. Many gardeners use an organic fertilizer—which gives a slow release over many months.

During the growing season application of 5-10-5 every 3 or 4 weeks will help give you bigger, brighter flowers on sturdy plants. An average rate is about 1 pound per 50 square feet of pansy bed. Liquid fertilizer can also be used.

Always check the application directions on the fertilizer label, and, if there is one, on the label from the package your pansy seed or plants came in. Follow these directions carefully when applying fertilizer. And always water pansies before applying any kind of fertilizer.

Cultivating

The day after planting seedlings in their permanent locations, work the ground around them, but only to a depth of about half an inch. You can use a hand cultivator and work right up to the base of the plant. Thereafter, work the ground around the plants as soon as the soil is dry enough after every watering or after every rain.

During the growing season, be sure to keep weeds down. Weeds will rob pansies of food and moisture and may cause pansies to be spindly.

Remove flowers that are fading to encourage more blooms. This prevents seed pods from forming, and extends considerably the period of flowering.

DISEASES

Pansies are subject to attack from several fungus diseases.

Anthracnose shows up on the leaves as brown areas with black margins. Petals may develop abnormally. If not treated, the disease can kill pansy plants.

Gray mold may appear under conditions of sustained moisture. It is particularly noticeable on flowers, where it may produce a soft, slimy decay.

Leaf spot, as the name implies, produces spots on the leaves which are small at first, but grow to cover leaves completely. Spots may also appear on flowers.

Rust causes red-brown pustules on the upper sides of leaves. On the undersides you can see light green spots where the pustules form.

Yellows (aster yellows), takes its name from the chief symptom it produces—it turns a yellow-green shade. It also causes stunting of plants. The disease is spread by a leafhopper.

Beet curlytop disease, which also attacks pansies, causes leaf curl and reduction of flower size. It is transmitted by the beet leafhopper.

Sprays or dusts containing zineb are fairly effective against most of these diseases. Zineb is not effective against yellows, however. Plants affected by yellows must be pulled up and destroyed or the disease will spread. In fact, it is always safer to destroy diseased plants to prevent disease spread. Do this also if the zineb treatments are ineffective. Ask your garden supplier for sprays or dusts with zineb and follow directions on the label carefully.

In addition to the diseases already mentioned, a fungus disease caused by a species of *Pythium* builds up in soils if you

plant pansies in the same spot year after year. The disease causes wilting and can kill the plant. Because of this, change the location of pansies every year or every other year. *Never plant pansies in the same soil more than 3 years in succession.*

PESTS

Along with the leafhoppers that transmit disease, aphids and spider mites also attack pansies. To control leafhoppers and aphids, apply malathion as a dust or spray. Spider mites are controlled with dicofol. You can buy sprays and dusts at your garden supply store, and at many drug and variety stores. Follow the directions on the label carefully.

You can obtain information on pests from your county Extension agent.

PRECAUTIONS

Pesticides used improperly can be injurious to man, animals and plants. Follow the directions and heed all precautions on the labels.

Store pesticides in original containers—out of reach of children and pets—and away from foodstuff.

Apply pesticides selectively and carefully. Do not apply a pesticide when there is danger of drift to other areas. Avoid prolonged inhalation of a pesticide spray or dust. When applying a pesticide it is advisable that you be fully clothed.

After handling a pesticide, do not eat, drink or smoke until you have washed. In case a pesticide is swallowed or gets in the eyes, follow the first aid treatment given on the label, and get prompt medical attention. If a pesticide is spilled on your skin or clothing, remove clothing immediately and wash skin

thoroughly.

Dispose of empty pesticide containers by wrapping them in several layers of newspaper and placing them in your trash can. It is difficult to remove all traces of a herbicide (weed killer) from equipment. Therefore, to prevent injury to desirable plants, do not use the same equipment for insecticides and fungicides that you use for a herbicide.

Note: Registrations of pesticides are under constant review by the U.S. Department of Agriculture. Use only pesticides that bear the USDA registration number and carry directions for home and garden use.