

MU Guide

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Flowering annuals: petunias

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Petunias have become one of the most popular flowering annual garden plants. They are relatively free from insect and disease problems, have a long flowering period, are easy to grow, and are available in a wide range of form and color.

The petunia has come a long way from its native Argentina. From the original white and magenta species, hybridizers have developed petunias in every color except a pure, bright yellow, and they are coming closer to that every year. From the simple single flower, they have developed large, ruffled, fringed and double forms.

Types of petunias

Petunias can be separated into three general groups: (1) grandiflora (2) multiflora and (3) floribunda.

Grandiflora. Grandiflora means large-flowered, or showy flowered. Plants in this group produce larger flowers than the multiflora types. As a general group, the grandifloras are not as free flowering as the multifloras, but some varieties flower more heavily than others. Because of the very attractive flower form, they are best used in window boxes, patio containers, and in beds close to the living areas where individual flowers as well as the mass effect can be appreciated. Dwarf growing varieties are well suited to pots and hanging baskets.

Within the grandiflora type there are three distinct groups: single, double, and California giants. Single grandifloras have medium to large flowers in which the edges of the petals may be ruffled or frilled. Double grandifloras produce large showy flowers. Flower production is not as heavy as the single types, and flowers are heavy and easily beaten down by rains. As a result these plants are best suited for specimens, where the individual flowers can be seen and appreciated. They are well suited to pots and hanging baskets where the heavy, hanging flowers can be more readily seen. They are not plants to be neglected; they need good care to be most rewarding.

California Giants are inbred petunias with spectacular, very large ruffled flowers. Plants are weak growers, and flowers are not produced heavily. They

are best suited for use in pots and planters. The spectacular flowers often reach 5 to 6 inches in diameter.

Multiflora. Multiflora means many-flowered, which is a good description for this free-flowering group. Flowers are not as large as the grandiflora types and seldom have any ruffled or fringed petals. Plants are generally vigorous and bushy. Multiflora types are especially suited to planting in beds where a mass of color is desired throughout the summer. Once flowering begins, healthy plants flower profusely to frost. There are both single-flowered and double-flowered multiflora petunias.

Single multifloras are most widely grown of all the petunia types. They are available in a wide range of colors and the smaller size of the flower is overcome by the great quantity of them produced. Multiflora types are also often less susceptible to injury from petal blight during wet weather. Double multiflora is the newest group of petunias. The double flowers are smaller with fewer petals than the grandiflora doubles, but they flower more freely. Flowers are similar to a miniature carnation, and they are available in a wide range of colors. They are suitable either for mass plantings or as specimens.

Floribunda. Floribunda is a new grouping that has been given to petunia varieties that are intermediate between the grandiflora and the multiflora groups. They have the free-flowering characteristic of the multiflora varieties, but produce blooms that are larger than most multiflora varieties but smaller than most grandifloras.

Cultural practices

Soil. Petunias perform well in a wide range of soil types; however, best growth occurs in a well-drained, light soil of medium fertility. Soil pH of 6.0 to 6.5 and a high level of phosphorus and potassium is ideal.

Because it is easy to over-fertilize or over-lime small areas, a soil test should be made to determine the level of fertility before soil amendments are made.

Internal drainage of the soil must be good to avoid the development of crown rots and root problems. To test the internal drainage, dig a hole about 10



Single Grandiflora



Double Grandiflora



Single Multiflora



Double Multiflora

inches deep and fill the hole with water. The next day, fill the hole with water again and see how long the water remains in the hole. If the water drains away in eight to 10 hours, the internal drainage of the soil should be adequate for good growth.

If the soil or the area is poorly drained, raised beds may be necessary to grow good petunias. For information on improving soil and constructing raised beds, see MU Agricultural Guide 6955, "Improving Lawn and Landscape Soils."

Fertilization. After a soil test has been made and the soil fertility corrected, maintenance levels of fertility will be required in future years. Each year work into the bed about 2 pounds of a complete fertilizer such as a 5-10-5 per 100 square feet of planting space. Make sure that the fertilizer is well mixed with the soil before planting.

An additional top dressing of nitrogen fertilizer such as ammonium nitrate in midsummer promotes growth. Use about 1 pound per 100 feet of row. Apply lightly to the soil surface and water in if rain is not likely. Avoid excessive nitrogen fertilization that can produce burn or excessive vegetative growth.

Planting. Started plants in bloom or ready to bloom are available in most areas. Petunias can be set in the garden any time after the danger of hard freeze is past in the spring. Plants that have been indoors or in stores should be hardened slightly before being planted directly into exposed beds. Place the new plants in a cold frame, or in a protected place close to buildings, or under evergreen trees to adjust them to outdoor conditions. Keep them well watered during this period. After several days of adjustment they may be planted into exposed areas in the garden.

Color	Grandiflora varieties	Floribunda (F) Multiflora (M) varieties	Color	Grandiflora varieties	Floribunda (F) Multiflora (M) varieties
Red shades	Candy Apple	Comanche (M)	Blue and purple shades	Blue Cascade	Celebrity Blue (F)
	Falcon Red	Red Carpet (F)		Blue Cloud	Highlight Blue (F)
	Red Cloud	Red Devil (M)		Blue Lace	Mercury (M)
	Red Flash	Red Madness (F)		Blue Magic	Plum Carpet (F)
	Supercascade Red			Malibu	Plum Madness (F)
	Supermagic Red			Mariner	Purple Joy (M)
Ultra Red		Orchid Daddy		Purple Plum (M)	
Crimson shades	Burgundy	Burgundy Madness (F)		Royal Cascade	Sugar Madness (F)
	Supermagic Ruby			Sugar Daddy	Sugar Plum (M)
	Ultra Burgundy			Supercascade Lilac	Velvet Carpet (F)
	Velvet Flash			Ultra Plum	
Orange	Supermagic Orange	Orange Bells (M)		Bicolors	Blue Frost
	Yellow Magic	Summer Sun (M)	Blue Picotee		Rose Parasol (M)
Yellow	California Girl		Calypso		Starfire (M)
	Yellow Magic		Cherry Frost		Star Joy (M)
White	Snow Cloud	White Carpet (F)	Dancing Lady		
	Supermagic White	White Joy (M)	Fire Frost		
	Ultra White		Gay Paris		
	White Cascade		Razzle Dazzle		
	White Flash		Red & White Flash		
Pink and rose shades	Cherry Blossom	Celebrity Hot Pink (F)	Red Picotee		
	Falcon Red Morn	Cherokee (M)	Starburst		
	Flamenco	Pink Carpet (F)	Telstar		
	Happiness Imp.	Pink Madness (F)	Ultra Crimson Start		
	Pink Daddy	Rose Madness (F)	Ultra Red Star		
	Strawberry Daddy	Sheer Madness (F)	Ultra Rose Star		
	Supercascade Pink		Velvet Frost		
	Supercascade Rose		Velvet Picotee		
	Supermagic Pink				
	Ultra Pink				
Ultra Rose					
Salmon and coral shades	Appleblossom	Celebrity Salmon (F)	Doubles	Blue Danube	Cardinal Red Riches (M)
	Chiffon Cascade	Coral Madness (F)		Bridal Bouquet	Cherry Tart (M)
	Coral Cascade	Polo Salmon (M)		Circus	Honey Bunch (M)
	Falcon Salmon	Summer Madness (F)		Duet	Peppermint (M)
	Supercascade Blush			Lyric	Plum Double (M)
	Supermagic Coral			Nocturn Imp.	Snow Bird (M)
	Ultra Salmon			Purple Pirouette	
		Rhapsody			
		Salmon Bouquet			
		Sonata			
		Valentine			

Figure 1. Varieties of petunias by color.

When selecting plants for spring planting, look for those that are short and compact. Plants grown leggy and thin often have been exposed to high temperatures and long days and are slower to adjust to outdoor conditions. The presence of flowers does not indicate a superior plant. Young plants not yet in bloom often take off faster once placed outdoors. The best plants are those about 6 inches in height that have developed side branches. For good ground cover, space petunias at about 12-inch intervals.

Care during the growing season. Once established, petunias need little care during the growing season. Removal of dead flowers is not essential but

will give increased flower production in some varieties and a neater appearance to the bed.

During hot, dry weather, additional watering may be necessary to keep plants from deteriorating. Supplement the natural rainfall so that plants receive 1 to 2 inches of water every seven to 10 days. Avoid frequent light waterings that wet the flowers. If plants become excessively leggy and stop flowering, prune the flowering shoots back to a few inches from the base, but do not cut back plants so hard that all foliage is removed. At this time a top dressing of fertilizer should be applied. Use rates as listed under the section on fertilization. If this is done during a hot,

dry period, additional watering will be necessary to force out new growth and flowers.

Weeding. Keep down all competing weeds until petunia plants have made enough growth to completely cover the soil. In small areas hand weeding may be adequate until plants have formed a dense cover and few weeds grow up through them. In large areas, pre-emergence herbicides may be applied after the new plants have become established.

Locating beds. Petunias will be most compact and flower more freely if located in full sun. In light or heavy shade plants become leggy and flower poorly as well as become subject to disease problems.

Varieties

There are many excellent varieties of petunias, and from the several hundred available, it is difficult to single out only a few. Fortunately with keen competition between so many varieties, few poor varieties remain on the market long, and most varieties available today perform quite well in the garden. On the preceding page are listed some of the varieties that have performed well in trials, and many that have remained popular among gardeners. Consider this list only as a guide since it is impossible to list all the excellent varieties available.

Starting petunias indoors

Starting petunias from seeds indoors is not easy since the seeds are very small and subject to damping off and other soil diseases. For this reason it is usually best to purchase started plants. If petunias are to be grown from seeds, such materials as vermiculite and peat moss combined with a small amount of soil will be adequate. The medium must be thoroughly sterilized, either with heat or with chemicals before the seed is sown. Seeds may be spread on the surface of the seeding medium and covered with a sheet of plastic until germination begins. After germination, the plastic should be removed and the pot placed close to a sunny window where maximum light is given.

Germination occurs best at about 70 degrees, but after germination, the plants should be kept cool, no more than 60 degrees at night.

Plants started in the house are often quite tender and require a longer period of hardening outdoors before they may be planted in the garden.

Diseases and insects

Once established in the garden, petunias are relatively free of any serious insect or disease problems. A few, however, may develop.

Aphids can be a troublesome insect pest, especially during the early spring. They often appear for only a few days, but if they persist, control them with a good insecticide.

Crown and stem rots are caused by soil-inhabiting fungi. These organisms are generally present, and weakened plants are most subject to attack by them. Plants in tight, poorly drained soil are most often attacked by one or more of these organisms during wet periods or if watered excessively. Plants weakened by lack of water during dry periods are also more subject to attack.

Mosaic is a common disease of petunias caused by one of several viruses all of which produce the same symptoms. Diseased plants are stunted, and the leaves, with yellowish-green and dark green areas, are often crinkled and deformed. Blossoms may also be deformed and show color mottling. Remove and destroy diseased plants as soon as they become evident. The virus can be transmitted by persons handling petunias while using chewing or smoking tobacco that is infected with the tobacco-mosaic virus. Some insects such as aphids also transmit the virus and should be controlled if present.

Petal blight is caused by a fungus and attacks the flowers of most petunias during wet periods. Some varieties are more subject to attack than others, however. Removal of old flowers and planting petunias where plants dry rapidly in the mornings will reduce the seriousness of this problem.