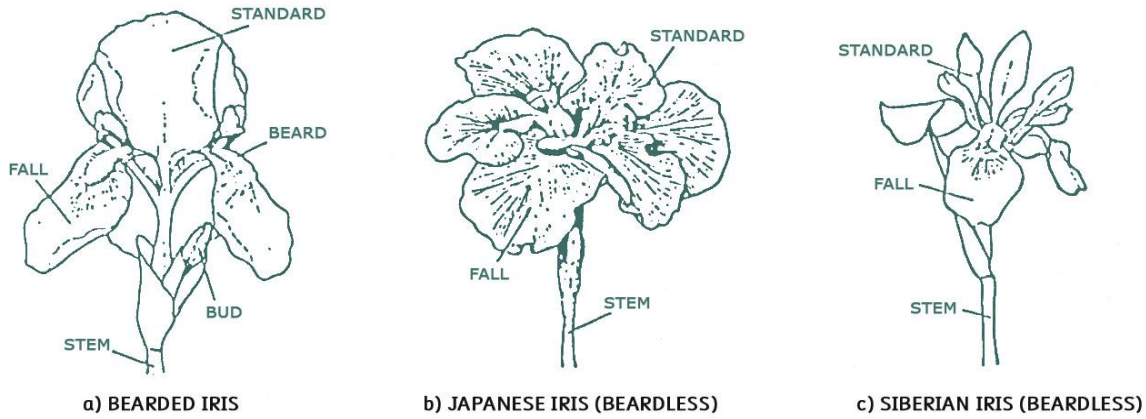
Iris

History

The iris is one of the oldest garden perennials. The flower takes its name from the Greek goddess Iris who, according to legend, walked a rainbow pathway through the sky. Four thousand years ago in Crete, the iris was the prized possession of the priest and prince. To the Egyptians the iris stood as a symbol of majesty and power. It was placed on the brow of the sphinx and on the scepters of their kings; the three petals of the flower typifying faith, wisdom and valor.

According to French legend, King Chloris, at war with the Goths, was directed to a safe crossing place over the River Lys by a profusion of yellow flag irises, without doubt, *I. pseudocorus*. In gratitude, the King adopted the flower as his personal device and named it the 'Fleur-de-Lys'. Many years later Louis VII also chose the lovely water iris as his badge and it became known as the 'Fleur-de-Louis'.



a) BEARDED IRIS b) JAPANESE IRIS (BEARDLESS) c) SIBERIAN IRIS (BEARDLESS)

Flower characteristics of a) bearded iris, b) Japanese iris, and c) Siberian iris.

Classification of Iris

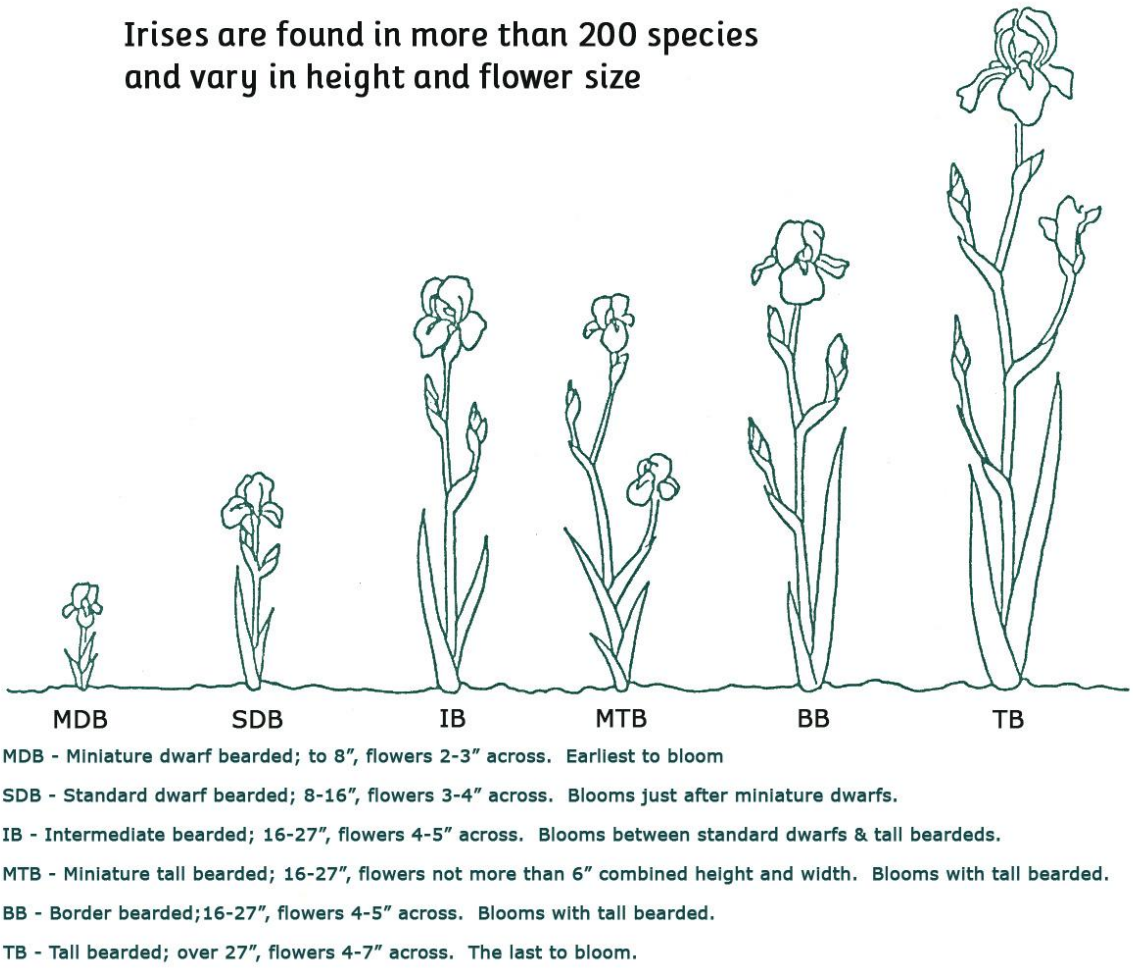
Iris flowers have six petals. The three upright petals are called "standards and the three that hang down are called "falls." The genus is composed of 200 or more species which are separated into two major groups: rhizomatous and bulbous.

Rhizomatous Iris: Rhizomes are underground stems which function as a storage organ for food produced by the leaves. Each year, underground offshoots develop from the original rhizome. These offshoots may be divided and transplanted to grow new irises. Within the rhizomatous group, three sub groups are distinguished: the bearded or pogon irises, the crested or evansia iris, and the beardless or apogon irises.

Bearded Iris: Bearded irises possess broad leaves with large, fleshy rhizomes proportionate to their height. The true bearded or pogon irises have a dense beard that runs down the middle of the falls. The other bearded subgroups (regalia, pseudoregalia, onocyclus) have seeds with prominent, cream colored arils (seed appendages) and beards of varying character. Collectively, they are often referred to as the "aril" irises. Bearded irises are typically classified according to size and floral characteristics.

Crested/Evansia Iris: Instead of beard or hairs, the crested or evansia iris has a cockscomb-like crest along the center of the falls. The flower of the crested iris is similar in form to the Japanese iris, only smaller. Included in this subgenus is the floriferous *I. tectorum*, the roof iris of China.

Beardless Iris: The beardless irises have smooth falls, without hairs or crest, and leaves that are long and narrow. This group has the largest number of species and the widest geographic distribution. This subgenus includes the Siberian, Spuria, Japanese, Californian and Louisiana irises.



Bulbous Iris: The characteristics of bulbous irises vary so greatly that they are separated into two subgroups: Xiphium and Scorpiris. Almost all bulbous irises are beardless with narrow segments. The important differences for classification are found in the rootstocks.

Xiphium: In the Xiphium subgenus, the bulbs are rootless during the resting stage. Bulbs are smooth except those of the reticulate irises, which are distinguished by a netted or reticulated covering. This subgenus includes Dutch, Spanish, English and the early flowering, small reticulate iris.

Scorpiris: Members of the Scorpiris subgenus, such as the Juno iris, are characterized by thick fleshy roots that persist during the resting stage.

Reblooming iris: Reblooming irises have two distinct periods of flowering; the summer and late autumn. The widest selection of color and size is to be found in the bearded irises. A few of the cultivars of Siberian, Japanese, Louisiana (beardless) and aril irises (bearded) have the reblooming trait, but the color range for beardless rebloomers is still somewhat limited. While rebloomers are often less robust than the 'normal' irises, a light application of fertilizer following first bloom and water during summer dry periods will result in increased vigor and fall bloom.

Landscaping with Irises

Irises are important in the perennial border, and there is an iris suitable for every area of the design. The very tall varieties of bearded irises and beardless Spurias, Japanese and Siberian varieties are best suited to the back of the perennial border or in the center of an island bed. Shorter varieties of iris may be used to form large middle-ground masses. Groups of shorter bulbous Dutch and English iris belong toward the front, and the standard dwarf bearded and some species iris, can serve as accents in the foreground. Miniature dwarf bearded iris and the spreading dwarf crested *I. cristata* may serve as irregular drifts of color in the border.

If you want irises for color accent in the landscape, you have a wide choice. Though the modern tall beardeds do not lend themselves to naturalizing, some of the old varieties - the white 'Priscila', 'Bluet', Pink Ruffles', orchid 'Dream', and 'Dogrose' are rugged enough to bloom even on a rocky hillside. Old varieties of the intermediates and some of the standard dwarf bearded varieties will do well in marginal soil. Wild species of iris are also particularly suited for rock gardens and for naturalizing.

Many irises are very attractive in association with water, which suits each species to varying degrees. *I. laevigata* and *I. ensata* must be grown in water if it is to flourish. Yellow flag (*Iris pseudocorus*) and blue flag iris (*Iris veisico1or*), being water plants by nature, do quite well when planted along the border of lakes and ponds. Siberian and Japanese irises with narrow, long graceful foliage remain attractive all summer and are among the best plants for poolside plantings.

While irises cannot tolerate deep shade, a number of the beardless species and cultivars need or can endure partial shade. The dainty dwarf *I. gracilipes*, *I. foetidissima* and the tiny *I. versa* demand part shade. The dwarf crested *Iris cristata* will spread to form wide mats in high shade. *Iris tectorum*, the roof iris of China, prefers some shade; the spurias, Louisianas, *Iris versicolor*, and *I. dichotoma* prefer full sun but, are satisfactory in semishade. The Siberian irises also bloom in part shade, and three Pacific Coast natives, *Iris innominata*, *I. tenax* and *I. Douglasiana*, flower equally well in sun and light shade.

In the rock garden, a flame of miniature irises will bloom from the end of February until the middle of June. First to bloom are the narrow-petaled reticulatas. They are followed by the miniature dwarf pumilas, which provide drifts of color around daffodils and early tulips. Dwarf species of the tuberous rooted Juno iris bloom in April. Juno irises are followed by the May-blooming hybrids of standard dwarf bearded irises which provide charming accents in the rock garden as well as the perennial border.

Progression of Iris Bloom

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Reticulated	X X	X X X X X X							
Miniature dwarf bearded			X X X X X X X						
Juno				X X X X					
Standard dwarf bearded				X X X X					

Standard aril & arilbrad	X X X X X X X X
Intermediate bearded	X X X X X
Evansia	X X X X X
Tall bearded	X X X X
Border bearded	X X X X
Siberian	X X X X
Dutch, English, Spanish	X X X X X X
Lousiana	X X X
Spuria	X X X X X
Japanese	X X X X X X
I. Dichotoma	X X X X X X X
Reblooming bearded	X X X X X X X X X X X X X

Planting Irises

The best time to plant rhizomatous irises is late July to early September. Later planting may not allow adequate time for plants to become established. Irises prefer a sunny, well-drained location. Never plant irises where water will stand on the bed. If necessary, raise the beds above ground level.

Iris beds should be prepared at least two weeks in advance to allow the soil enough time to settle. Prepare the bed by deep digging (10-12 inches) to create excellent drainage. To improve the soil root zone characteristics, work organic matter such as well-decayed manure or compost into the subsoil. A good rule of thumb is to add an amount equal to half the depth of the soil you want to condition; for example, a 3-inch layer of compost over 6 inches of soil, a 6-inch layer over 12 inches of soil, and so on.

While working compost into the soil, apply a complete fertilizer such as 5-10-10 at a rate of 2 pounds per 100 square feet of bed area and till into the topsoil of new beds. To improve acid soils, lime may also be worked into the topsoil, but only as directed by a soil test. Lime is not required if the soil pH is above 6.2.

When planting, dig two slanting holes about two inches apart and five inches deep, leaving a shallow ridge of soil between them. Set the rhizome firmly on this ridge and spread half of the roots into each hole. Cover the roots and firm the soil around them. Cover each rhizome completely, but not deeply, so that the rhizome is slightly exposed. Firm the soil around the rhizome and water in well to settle the soil.

Generally iris clumps are planted 18 to 24 inches apart. As a suggestion, plant three to seven sections of each variety so that all of the leaf-fans face the same direction. Plantings should be made in a triangle or in a staggered design with the growing points to the outside of the clump. This will insure that the plants continue to grow in the same outward direction and not crowd each other. Bulbous irises should be planted at least three inches deep and approximately 4 to 5 inches apart, similar to daffodils and tulips. Plant bulbs no deeper than 2 times the diameter of the bulbs. When replanting, select only the larger bulbs, leaving the smaller bulblets in the ground to mature.

Maintenance

Established beds of iris may be fertilized early in the spring and again after blooming. Use a complete fertilizer as described above at a rate of 1 pound 10-10-10 per 100 square feet. Avoid overfertilizing with nitrogen. Excess amounts may encourage soft, vegetative growth. Applying a light top-dressing of superphosphate in the spring will improve quality of bloom. For spot treatment, a handful of bone meal (25% available phosphorous) may be mixed into the planting hole of each plant.

Irises are shallow rooted and need supplemental watering every week or so. Thoroughly soak the soil when watering. Do not water again until the soil is dry. Iris is susceptible to problems in wet or poorly drained

soils.

Remove faded flowers of iris on a routine basis to allow space for new flowers to develop. This practice will also discourage seed development. After all the flowers have faded, cut the flowering stem to the ground and remove the outside leaves. As the summer progresses, continue removing the yellowing leaves from the clump.

Freezing and thawing may cause winter heaving of soil, this loosens the roots and may push iris plants completely out of the soil. Newly-set rhizomes are particularly susceptible to heaving out of the ground in a severe winter if not mulched. Prairie hay or evergreen boughs make a suitable winter mulch for irises. Apply the mulch after the ground is frozen, and remove it in early April.

Division

Most rhizomatous irises should be split every 3 to 5 years. Divide iris clumps in the summer or early fall before September 15 in the St Louis area. Begin by cutting back the leaf fans to one-third their original height. This will help to reduce water loss until the roots are able to take hold again. Dig the clumps by placing a spade under the clumps and lifting entirely. After the clumps are dug, wash them clean with the hose, and carefully inspect the rhizomes for rot and borer damage. Use a sharp knife to separate the rhizomes. Dip in 1 part bleach to 9 parts water between cuts to keep the tool sterile. Be sure to leave as many roots on each rhizome as possible.

Discard the old center divisions and replant the fans with the cutback foliage. As a safeguard against disease, the rhizomes may be dusted with sulfur or a fungicide before replanting.

Pests and Diseases of Iris

Iris Leaf Spot

Iris leaf spot is the most common and widespread disease of both rhizomatous and bulbous species of iris. This fungal disease is favored by prolonged periods of mild and very damp weather. Leaf spot begins as green, water-soaked areas that soon dry and turn brown. The brown spots usually have a water-soaked margin. In severe cases, leaf spot causes dieback of the leaves leading to the death of the entire plant.

Good cultural and sanitation practices will help to prevent leaf spot. It is important to cut off and destroy the infected parts of the leaves as soon as the disease begins to develop. In addition, all plant debris should be collected and disposed of in the fall. The leaf spot fungus is carried through the winter on dead iris leaves. If cultural practices fail to check the development and spread of leaf spot, spray the plants with a fungicide. Zineb and maneb have been reported to give good control of this disease.

Bacterial Soft Rot

Bacterial soft rot is the most destructive iris disease. The bacterium that causes soft rot disease enters the plant either through breaks in the rhizome or through wounds. The iris borer is frequently the cause of the wound. After the bacteria enter the plant tissue, the leaf bases and rhizomes begin rotting, and the plant slowly dies.

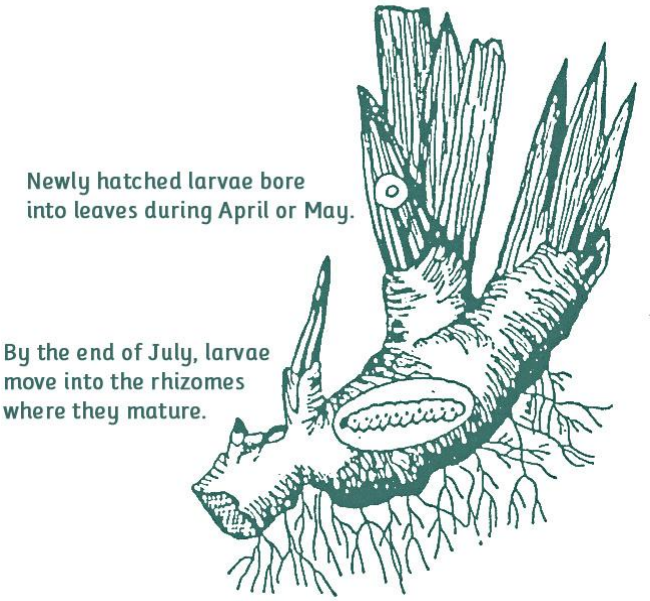
The first sign of bacterial soft rot is reddish brown dieback of the leaf tips and dulling of the normal green color of the leaves. If you suspect bacterial soft rot, dig up the diseased rhizome. Carefully cut out all rotted portions of the rhizome and destroy them. Take care to clean and disinfect your cutting tool with 1:9 diluted bleach or 70% alcohol between each cut to avoid transmitting the bacteria into the fresh wound. Allow the cut rhizome to heal for several days before replanting. Soft rot is favored by warm, moist

conditions. Select a well-drained location when replanting your iris.

Iris Borer

The iris borer larva causes more damage to irises than all other insects. Borer larvae hatch in early spring from overwintering eggs. The pink caterpillar-like larvae are about 1.5 inches long when full grown and have rows of black spots along their sides. These caterpillars pierce iris leaves and tunnel into the stem. By early to mid-July the larvae reach the rhizome, where they remain to feed and grow. In late July and early August, the larvae leave the rhizome and pupate in the soil.

Fall sanitation is very important in iris borer control. After the first hard frost, remove and destroy old iris leaves, stems and nearby plant debris. In small plantings, iris borer can be adequately controlled in the early stages of development by crushing the young larvae in their leaf tunnels. Heavier infestations may be controlled by using a dust or spray containing malathion or carbaryl. The chemical should be applied weekly during the prebloom period, starting when the leaves are six inches tall. Do not apply carbaryl compounds during bloom periods as the chemical is highly toxic to bees.



Recommended Irises

The following irises have been recommended for growing in the St. Louis area by the St. Louis Iris Society. Important factors to consider include color, bloom period and height.

Cultivar	Flower Color	Height
Tall Bearded		
Pink Taffeta	pale-rose pink	32"
Beverty Sills	coral pink	36"
Edith Wolford	yellow blue bicolor	40"

Immortality	white (rebloomer)	30"
Border Bearded		
Calico Cat	yellow lavender bicolor	20"
Blackbeard	pale steel blue	25"
Butter and Spice	yellow lined with browning purple	24"
Intermediate		
White Chapeaux	white yellow bicolor	18"
Piece of Cake	clear pink	22"
Louisiana Iris		
Professor Jim	medium red veined with yellow signal	38-42"
Tomato Bisque	red/yellow line signal	32-36"
Waverly Fink	pink/rose with green and yellow signal	28"
Siberian Iris		
Pas-de-Deux	white/lemon yellow	26"
Silver Illusion	silvery white/gray	28"
Japanese Iris		
Japanese Pinwheel	red violet with white edge	40"
Edge of Frost	deep violet with white pencil-lined edge	36"
Blueberry Rimmed	white with violet edges	36"
Spuria		
Missouri Blue	deep blue	44"
Chocolate Fudge	deep brown/golden yellow	42"
Bali Bali	ivory/yellow	39"

For more information contact:
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