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# Culture of Iris

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Iris culture emphasizes the best in site selection and preparation, planting, culture, and insect and disease control.

Irises are among the most popular and beautiful garden flowers for Midwest landscapes *(Figure 1)*. More than 200 species of irises have been found in the wild and from these species, thousands of varieties have been named and made available for public use. Iris plants range in height from just a few inches to over 3 feet and are adapted to a variety of environmental conditions. The standard iris, Japanese iris, Siberian iris, Spuria and yellowflag types are suitable for Nebraska.

Iris flowers can be from 1 or 2 inches across up to 8 to 10 inches across and come in almost every color and often in two-color combinations. Irises can be selected to have continuous flowering from early April through June by using an assortment of iris species and cultivars.

Irises can be divided into "bearded" and "beardless" types. The term "bearded" refers to the presence of bushy "beards" on each of three drooping, petal-like sepals, called falls. The true petals are called standards and are upright. Bearded irises, commonly called standard irises, are the most popular and widely grown irises in Nebraska. Beardless irises have smooth sepals and petals. In contrast to bearded irises, most beardless irises prefer more acidic soil conditions (5.5-6.5) and high soil fertility. This NebGuide will emphasis the culture of bearded irises.

## Site Selection and Preparation

A properly located and prepared soil bed will result in better iris growth and more blooms. Irises perform best in full sun — a minimum of six hours per day. Light afternoon shade will help prevent the fading of flower colors. Irises prefer well-drained soils with a pH between 6.0-7.5. Poorly drained soils may lead to unsatisfactory performance due to diseases. Before planting, work the area where the iris bed is to be planted to a depth of at least 10 inches. One to two inches of compost can be incorporated to a depth of 10 inches into poorly drained soils to improve water drainage. In very poorly drained soils, irises can be planted in raised beds. A general fertilization with 2 pounds of 5-10-10 per 100 square feet is recommended. Prepare the soil two to three weeks before planting to allow settling.

**Figure 1. Irises**

## Planting

Irises grow from an enlarged underground stem called a rhizome. These rhizomes grow just below the soil surface. They are the source of growth for fans of leaves, flowers and the roots that anchor the plant. Rhizomes are used to vegetatively propagate new plants of the same type. Plant iris rhizomes from mid-July to early September. This is the best time to plant the rhizomes to allow for adequate root growth and establishment before winter. Buds for next year's bloom are formed during late summer. It is important to plant the iris early enough to avoid cold damage to these buds.

Place iris rhizomes just below the soil surface in a well-drained soil. In poorly drained soils, plant with the rhizomes exposed slightly to prevent rotting. Roots arising from the rhizome should be buried to provide good anchorage.

In a well prepared landscape bed, dig a shallow hole wide enough to place the rhizome or rhizome clump without damaging it or the attached roots. Leave a cone or ridge of soil in the center of the hole. Place the iris rhizome on top of this cone and spread the roots out around the cone *(Figure 2)*. Don't allow the roots to clump together. The rhizome should be parallel with or just slightly below the soil surface level. Fill the hole with soil and firm around the roots and rhizome. Water the rhizomes thoroughly, immediately after planting. After the initial watering, water sparingly until growth begins. Start of vigorous top growth will indicate good root establishment.

Plant iris rhizomes approximately 18 inches apart, with fans facing the same direction *(Figure 3)*. Since the flower stem

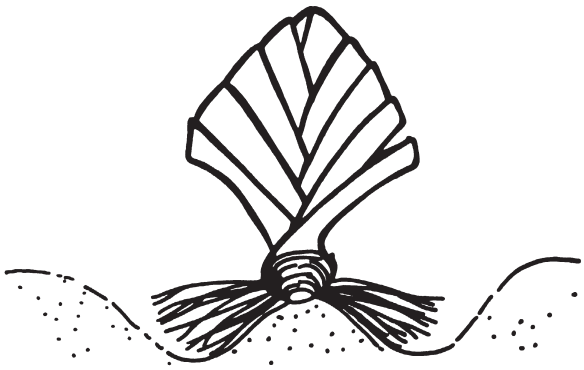

**Figure 2. Plant iris on top of cone and spread roots around cone.**

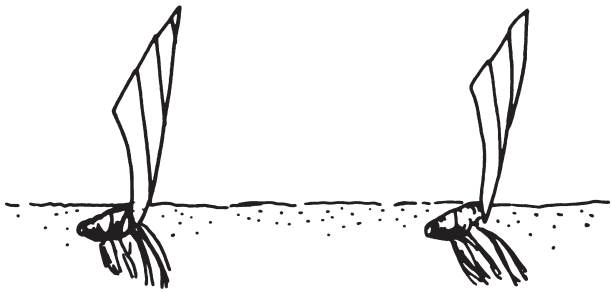

**Figure 3. Plant rhizomes at least 18 inches apart, "facing" the same way.**

will emerge from this fan, this will allow adequate spacing for blooms. For a larger display of an individual color, plant three or more rhizomes of a single variety in a group.

## Culture

Irises require the same good cultural care as other perennials. They need adequate water. Keep the soil moist but not wet before blooming time. Avoid heavy mulching in clay soils, as this may keep the soil too moist and may cause rhizome rot.

When the blooms fade, cut them from the plant, unless obtaining seed is a goal. Cleaning up both bloomed-out stalks and dead leaves will not only keep iris plantings looking better, but also will help reduce chances for future pest problems. Retain healthy leaves. These leaves are a source of energy for next year's growth and are protecting the tiny flower buds that are forming within the bases of the sheaths for next year's bloom.

Fertilization of iris can range from adding no fertilizer to fertilizing five times a year. Much of the variation depends on what is expected from the iris. More fertilization is needed for irises grown for show. For a nice garden display, less fertilizer is needed.

Although not necessary, most irises perform well with one fertilizer application per year. Apply 1 to 2 tablespoons of a 5-10-10 or similar fertilizer just after blooming around each rhizome. Be careful not to apply the fertilizer directly on the rhizome, as burn may occur. If show irises are desired, fertilize with 1 tablespoon in mid-August and again in mid-October. Apply a fast acting liquid fertilizer around the plants — not on the plants — about three weeks before scheduled bloom. If the plants are to be divided later that summer, fertilize again just after bloom with a balanced fertilizer. Fresh manure is not recommended for fertilizing iris since it may lead to rhizome rots. Manure should be composted for at least one year before adding to iris beds.

Eliminate competition from weeds. Frequent, shallow cultivation is an effective method for controlling some weeds and will improve air circulation around the rhizomes. Avoid deep cultivation which may injure iris rhizomes or roots. Herbicides are available for selective control of grasses in iris beds.

Iris rhizomes multiply rapidly and may require dividing every two to five years, depending on growing conditions. Divide iris plants any time after blooming is completed, but for best results divide in late summer to early fall. Before dividing iris, cut the leaves to about one third of their full height. Remove rhizome clumps from the soil and wash away some of the soil to examine the health of the rhizomes. Cut away the older and damaged rhizomes. The most vigorous rhizomes will be those on the outer edge of the clump. Cut rhizomes into sections, with each section having minimally one to two leaf fans and healthy white roots, and replant. Larger divisions will produce flowers more rapidly, but will require division more often than smaller divisions *(Figure 4)*.

Newly planted irises may need to be winter mulched. Use clean hay, straw, evergreen boughs or other non-packing material. Put mulch in place in late fall. If there is snow on the ground, mulch over the snow. Be sure that the mulch is deep enough to provide adequate coverage and allow for some settling.

Mulch can also help reduce freezing and thawing of the soil that can push plants out of the soil. In areas where this is common, mulching is recommended, even for older plantings. If plantings aren't mulched, watch for plants that have been heaved out of the ground by freezing and thawing. If this happens, firm the plants back in place.

After the snow and ice have melted away in the spring, remove the mulch. Do this in several stages. Remove the

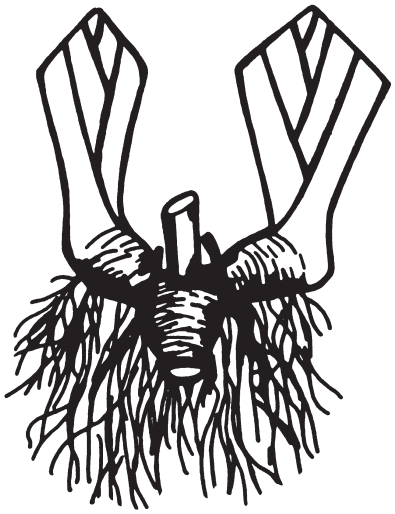

**Figure 4. Small iris clump showing proper division for replanting. The central portion should be discarded. The two-side "fans" can be replanted for bloom next year.**

top layer to allow sunlight and air to dry out the area. After several days, remove more of the mulch. If the mulch layer is thick this can be done in two steps. A thicker mulch requires more steps. Be careful not to damage plants and break leaves when removing mulch. Damage to the center of the plant may prevent flowering. Carefully remove dead outside leaves to prevent possible problems at this time.

After the soil surface has dried, select a dry, sunny day to do a final cleanup. Check plants closely for winter damage or decay. The decay will most often show up as dry rot. If dry rot is present, scrape away the soft portion. Treat the rhizome's exposed portion with an appropriate fungicide.

### Insects and Diseases

Irises are relatively carefree plants. The most common pest problems are discussed below.

- Iris borers are the most destructive insect pest of iris and can be found throughout Nebraska. This pest overwinters as eggs attached to the previous year's iris leaves. Eggs begin to hatch in late April. The young borers move up the leaf, feeding as they go and leaving jagged leaf edges. Later, the iris borer caterpillar chews a small hole into the leaf and tunnels inside down to the rhizome. This feeding causes distinctive water streaks in the leaves. Once in the rhizome, the borers continue to feed and can completely destroy the rhizome. In mid-summer, the borers pupate then emerge as moths in late summer to early fall. Female moths attach their eggs to nearby iris leaves, thus completing their seasonal cycle.

  Sanitation is the key to controlling the pest. Once iris leaves have turned yellow, remove the current year's dead foliage and compost it. This should reduce problems next year by eliminating the overwintering egg stage. A well-timed insecticide application in the spring (late April through early May or when leaves are about 4 to 6 inches tall) will reduce iris borer damage. Treat foliage with bifenthrin, cyfluthrin, permethrin, or spinosad to destroy newly hatched borers before they can tunnel into the plant. A second application should be applied after 10 to 14 days. A single application of the systemic insecticide imidacloprid (Merit, Bayer Advanced) also should provide satisfactory control. In addition, small caterpillars can be killed by squeezing them while they are inside the leaves.

- Following a severe borer infestation, or damage to rhizomes, bacterial soft rot may start. This disease causes the bases of leaf fans to become soft and slimy. The rhizomes will soften and become mushy. This disease is accompanied by a very foul smell. In less severe cases remove the infected fans and scrape away the soft rhizome tissue. Treat the exposed firm tissue with copper or an antibiotic dust to help disinfect this area.

- Crown rot is another disease that can affect iris rhizomes. There will be a softening of rhizomes, similar to bacterial soft rot, and small round cream to tan spots on the leaf bases. This disease is not accompanied by the foul smell. Remove and destroy seriously infected plants.

- Iris scorch is a non-infectious disease. Little is known about the cause. It may occur at any time during the growing season, but is most common in the early summer. Leaves of the plant will die back from the tips and roots will soften and die. The rhizome is not affected. If this disease is discovered, lift the rhizomes immediately and store them in a warm, dry location for the remainder of the summer. In the fall replant the rhizomes. The plants should survive, though they may not bloom the next year.

- Iris leaf spot is a common disease of iris. It appears as small brown spots with water-soaked margins near the leaf tips. Older spots are surrounded by a dark reddish brown border. After blooming, the spots rapidly enlarge and may coalesce on the leaf tissue, causing premature death of the leaf. Iris leaf spot does not affect the rhizome, but can severely weaken the rhizome due to premature leaf death. Iris leaf spot is more common during wet seasons. Planting iris in full sun and with proper spacing will help reduce leaf wetness and disease severity.

  Sanitation is important for control of iris leaf spot. Immediately remove diseased leaves, spent flower stalks and browned leaves. This should remove many of the overwintering spores that cause infection the following spring. Usually sanitation will provide sufficient disease control. For severe disease infections, a well-timed fungicide application will control the disease. Fungicide applications should begin when the leaves are 4 to 6 inches high.

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