HOME GROUNDS FACT SHEET

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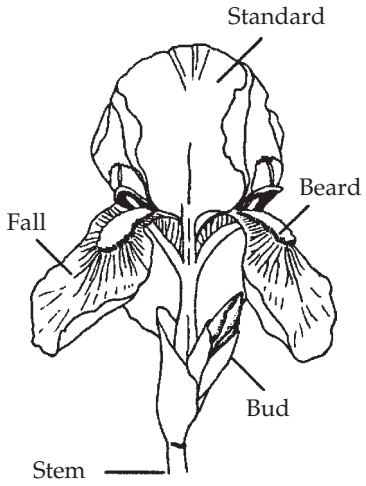
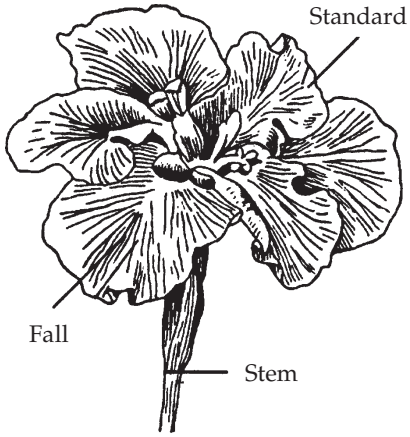
Iris Culture and Problems

Soil and Site

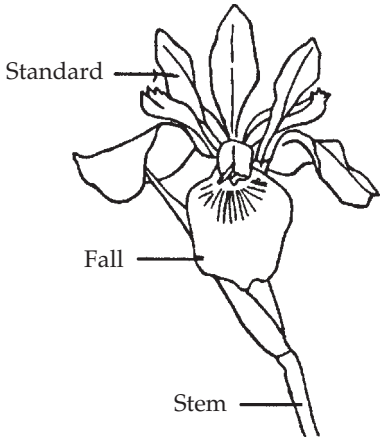
The culture of iris is relatively simple compared to many other garden plants. They all require a sunny location, particularly the bearded types. For the German iris, any good garden soil is suitable, provided it is well drained. The Japanese iris thrives on moist, rich soils and may be planted with success around ponds. It will, however, do well in other situations if the soil is fertile and abundant moisture is supplied. The Siberian iris is hardier than either of the others both in withstanding severe climatic conditions and the competition of other plants.



Bearded Iris



Japanese iris (beardless)



Siberian iris (beardless)

Planting

The established rhizomes of the **bearded iris** normally lie at the surface of the soil, half embedded in the earth. In planting, they should be covered with about 1 inch of soil and the earth packed solidly about them. As they become established, they grow to the surface. Other types of iris should be planted with the roots spread and covered with about 2 inches of well-firmed earth.

To maintain the bearded iris in good blooming condition, it is desirable to divide the clumps every third or fourth year. A fan set in July may send up flower stalks the following year. The clumps will increase the second year and be at their best the third year. In the fourth and fifth years, the fans compete with one another. They should be thinned out by removing a part of them so that they are spaced several inches apart or by digging up the clump, dividing it, and resetting the rhizomes. Usually, it is necessary to dig up the clump, divide and reset it because of infestation with grass and weeds. If in overhauling the Iris bed you want to establish new flowering clumps rapidly, 3 or 4 of the fans may be set together to form a clump. In setting such clumps, the leafy end of the rhizomes should be set pointing outward from the center of the new clump.

Japanese and Siberian iris do not require frequent division. Clumps of Siberian iris remain in good condition for a dozen years or more. Sooner or later, however, the size and quality of the blossoms may deteriorate. They may become infested with borers or overgrown with grass and will benefit by division and replanting.

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Fertilization and Maintenance

The bearded iris will grow on relatively poor soil. On poor soil, however, plants will benefit from the use of a good garden fertilizer, such as a 5-10-5 formula, dug into the soil around the plants in early spring or just after they have bloomed. A small handful (1/3 cup) to a clump spread on the surface of the ground several inches from the base of the plant and mixed with the soil is satisfactory.

Weeds should be controlled by clean cultivation and pulling from among the rhizomes. Various kinds of grass are the most troublesome because they grow between the rhizomes and are difficult to remove. It is an advantage to have the plants free from grass, weeds or other crowding vegetation so the foliage and the rhizomes will not remain moist over long periods of time and favor the spread of fungus disease. Borer infestation is also favored by weedy plantings.

An important practice in the culture of the **bearded iris** is to clean up and discard all dead foliage, preferably in the fall. This foliage carries disease spores and insect eggs. Winter protection through most parts of New York State is unnecessary. Only in the most severe winters is there any severe damage, and then only when the plants are exposed without snow cover. A loose mulch of coarse straw or litter may be an advantage, provided it does not mat down on the rhizomes and keep them wet. Mulches afford cover for mice that may destroy the rhizomes. A mulch may be advisable if the iris plants have been planted in the fall and are not yet well-rooted.

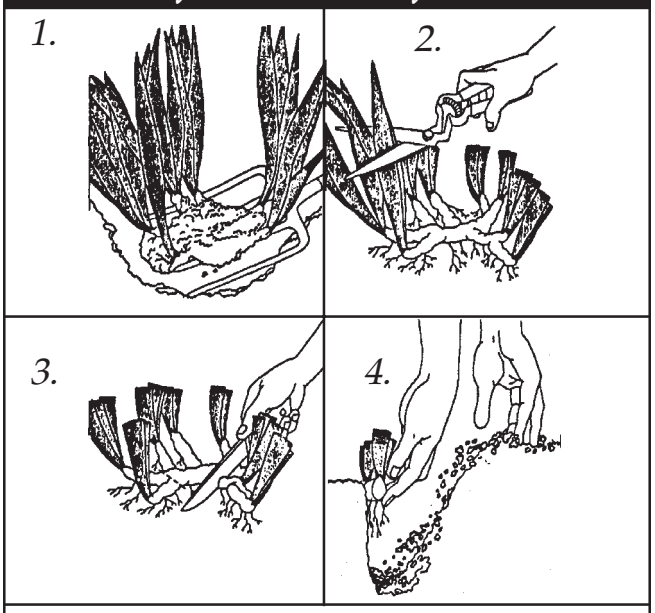
Japanese iris thrives under more moist conditions than the bearded type and responds to more liberal applications of fertilizer. Either well-rotted manure or a commercial 5-10-5 fertilizer is valuable when placed around the plants in early spring and mixed with the soil. Compost or peat is useful in soils that lack organic material. If the weather is dry before the plants bloom in June, liberal watering is advisable. Cultivation is essential to keep down weeds although the danger of disease is apparently not so important as with the bearded iris. The growth of the Japanese iris clumps is relatively slow, but they should be divided occasionally as they become crowded.

Siberian irises are perhaps the easiest to grow of all. Once established they persist in spite of competition from weeds and grass. They do, however, respond to good garden culture; clumps that become over-sized should be divided and reset.

Propagation

Irises, except the bulbous types, are propagated by simple division of the rhizomes. The division of the **bearded iris** are called “fans” and consist of one of the fan-like clusters of leaves with a 2-to-3 inch-long section of the attached rhizomes. The plants are usually divided in early July just after they bloom. With a sharp spade, the individual fans may be dug and separated or the clump may be cut into sections of several fans. It is good practice to cut off one-half or two-thirds of the leaf surface at the time of transplanting, unless a clump is moved with a ball of earth. Divisions set in July form roots and new growth before winter.

DIVIDING AND PLANTING BEARDED IRIS



1. Bearded irises need to be divided as shown here every four or five years to keep their vigor. Soon after the flowers fade, pry the entire clump gently out of the ground with a spading fork.
2. After washing the soil from the roots, trim the healthy leaves to a length of 4 to 6 inches; remove any shriveled leaves and dead f lower stalks. If plants show any signs of iris borers or disease, discard the stalks and leaves; do not put them in a compost pile.
3. With a knife, cut off the fleshy outer roots as shown by the dashed line so that you get V-shaped pieces, each with two fans of leaves. Discard the old center root. If pieces contain borers, cut these out;dust the cuts with multi-purpose fungicide to prevent rot.
4. Plant each root division in a hole made by plunging a trowel to its hilt into the soil, then pulling it up and toward you. Hold the division against the straight side of the hole, with the top of the roots just above the surface. Fill in and firm the soil until level.

Japanese and **Siberian iris** may be divided best in early spring, before growth starts. Later divisions during the spring and early summer can be made, but plants are more difficult to establish. Fall division is not satisfactory because of the danger of the plants heaving out of the ground during the winter. The clumps are dug up and cut into divisions with a heavy knife or sharp spade. Each division should have several tufts of leaves and as many roots as can be left attached in the cutting process.

The Bulbous Iris

The bulbous irises are most adapted to a climate with hot, dry summers and mild winters. Of its many species, only a few are satisfactory for growing in the northern states, and these are not well known to gardeners. In the very early spring, the dark purple flowers of *Iris reticulata* are attractive in the garden. Another hardy, early blooming species is the sky blue *Iris histrioides*. The later-blooming Spanish iris, *Iris xiphium*, is more showy and a good garden subject. The English iris, *Iris xiphioides*, is larger, later, and comes in a variety of attractive colors. The Dutch iris, of which the common greenhouse-forcing variety

Wedgewood is an example, is a hybrid race not satisfactory in northern gardens.

The above-named bulbous irises are easy to grow in well-drained soils in the open. Under good conditions, they should be planted from 3 to 4 inches deep, and spaced 6 inches apart. The bulbs multiply naturally by division and may be dug and separated at intervals of several years.

Problems

Although irises are easy to maintain and relatively free from pests and most diseases, they get leafspot diseases, bacterial soft rot, and borers.

Integrated Pest Management (IPM) Considerations

IPM is a common sense approach to pest control and plant care. It employs a number of measures to prevent, control or reduce plant problems.

These include using resistant plant varieties, proper plant selection and placement, good aftercare and biological and/or mechanical controls. As a last resort, after all other remedies have been explored, a pesticide* that is least toxic to people and natural predators, can be considered. Prior to using any pesticides, plants should always be monitored for the degree of infestation and a sensible control measure considered.

* A pesticide is a substance that kills, or attempts to kill, a particular pest, e.g. **insect**icide, **fung**icide, **herb**icide, etc.

Insects

Iris Borers are the most destructive pest of iris. They winter in the egg stage on old iris leaves and debris, particularly at the base. They make pinpoint holes as they enter. They gnaw out soft leaf tissue between leaf surfaces and work their way slowly down toward the rhizomes, leaving a water-soaked and ragged appearance to the leaf fans. While in the leaves, the larvae are slender and about 1 inch long. After they reach the rhizomes, usually in early July, they become fat, 11¦2 to 2 inches long, flesh-colored to pink with chestnut-brown heads. After eating out the interior of the rhizomes, the borer pupates in the soil. The moths have dark purplish fore wings and yellow-brown hind wings. They appear from late August to october, flying only at night. The female moth lays her eggs and the cycle starts all over again.

Control

Iris Borer can be partially controlled by cleaning up all plant debris in the fall. (see note A.)

Iris Borers

These moth larvae, hatched from eggs laid in old iris stalks and garden debris in late autumn, emerge in the spring as tiny caterpillars. They bore into new iris leaves and eat the solf interior tissue, gradually working their way down into the roots. The borers not only damage the plants with their chewing but carry the bacteria that produce foul-smelling soft rot.

Clear iris beds of old leaves and stems, where borers lay their eggs in the fall. (see note A.)

SUSCEPTIBLE PLANTS: IRIS, ESPECIALLY BEARDED VARIETIES

Diseases

Leafspot is the most common and widely distributed disease affecting bearded iris. Leafspot does not kill the affected plants, but through repeated serious attacks may reduce growth and vigor. Leaf spot is recognized by the more-or-less circular or oval spots, one-eighth to one-quarter inch in diameter, on the leaves. First evident as yellowish flecks, in time the spots become tan to brown with a distinct reddish border. With some iris varieties, the leaves die back when only a few spots are present. With other varieties, the leaves may become covered with spots before they die back. Either way, the result is an unsightly plant.

The fungus *Didymellina macrospora* causes fungal leaf spot. It's very specific, attacking only iris and a few iris relatives. An important characteristic of the fungus is that its spores germinate and cause infection only if the iris leaves are wet. Overhead sprinkling or splashing raindrops may spread the spores from diseased to healthy plants.

Control

Control of leaf spot involves elimination of the fungal pathogen. If all dead infected leaves are carefully collected and all infected living leaves cut off below the lowest infection and discarded, there should be no source of infection to renew the disease cycle in the spring. With sufficient care, this program will result in a high degree of control. (see note A.)

Bacterial leaf spot is caused by *Xanthomonas tardicrescrens* bacteria.

Control

Practice plant sanitation - When plants are not wet, carefully remove and destroy or discard affected plant parts. In the autumn, rake and remove all garden debris. Avoid wetting foliage if possible. Water early in the day using a drip system, so above-ground plant parts will dry as quickly as possible. Avoid crowding plants; space plants apart to allow air circulation. Prune to thin plants or plantings.

Soft rot, caused by a bacterium known as *Erwinia carotovora* is also a common and destructive disease of iris. It results in a soft, usually smelly rot of the rhizomes and lower leaf sheaths. Leaves on infected plants frequently wilt and eventually collapse due to rot at the base. In cases where the decay is progressing more slowly, the leaves may die back gradually from the tips.

The bacteria overwinter in the soil and in infected plant debris. Infection occurs chiefly through wounds caused by borers, snails, wind whipping and cultivation. Splashing rain and flowing water may spread the bacteria from diseased to healthy plants. It also is probable that borers and snails carry the bacteria and make entry wounds. Deep planting and a high moisture level in the soil favor infection.

Control

The most effective control of soft rot can be obtained during the summer when the plants are ready for division. At this time, the plants should be lifted and divided. All rotted portions of the rhizomes should be carefully cut out and destroyed. Before planting the rhizome, expose it to full sun and allow the cut area to dry. If the rot is extensive, it is best to destroy the rhizome. Plants should them be planted in a new location if possible.

Since the bacteria that cause soft rot are very susceptible to drying and sunlight, shallow planting with the upper half of the rhizome above the surface of the soil will aid considerably in preventing further trouble. A well-drained soil is desirable. Crowded or shaded situations should be avoided in all cases.

note A. Chemical pesticides are available. If you choose to use chemical pesticides, contact your local Cooperative Extension office for specific recommendations.

WHENEVER YOU USE A PESTICIDE, ALWAYS READ THE LABEL AND FOLLOW THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

"This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are still possible. Some materials mentioned may no longer be available, and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension specialist or your regional DEC office (631) 444-0340. Read the label before applying any pesticide. Cornell Cooperative Extension and its employees assume no liability for the effectiveness or results of any chemicals for pesticide usage. No endorsement of products is made or implied."