



Gladiolus

Gladioli, familiarly known as sword lilies, are showy, colorful plants that belong to the iris (*Iridaceae*) family. They are easily grown from enlarged nutrient-rich underground stem structures called corms. Widely regarded as cutting garden standouts, gladioli (the name is derived from the Latin word *gladius*, meaning *sword*) are prized for their striking orchid-shaped blooms, distinctive bladelike leaves, and long, spiky stems.

With a wide range of *Gladiolus* varieties on the market, beginning and experienced gardeners alike will find an appealing selection from the following recommended categories:

Large-flowered

Plants in this group sport shapely 4- to 6-inch blooms that cluster themselves in single-file fashion on leafless stems. Grandiflora hybrids commonly range between 3 to 4 feet in height and are available in an ever-increasing assortment of streaked and bi-color varieties, in addition to the traditional solids. They are hardy in USDA Zones 7-10, meaning they are not winter hardy in our Inland Northwest USDA Zone 6A. The plants must be treated as annuals here or dug and properly prepared for storage so they may be replanted the following year.

Miniature

This compact version of the grandiflora set is a great choice for containers, cutting and flower gardens. They have all the features of the large-flower type, including the ruffles, the frills, and the spectacular color range, just not on the same scale. Stalks measure 2-3 feet in height and blooms are generously sized at 2-3 inches wide. Miniatures are not hardy in Zone 6A and must be dug and stored prior to winter or treated as annuals.

Hardy Gladiolus

The *Gladiolus nanus* hybrids are reputedly hardy to zone 5 provided they are well mulched before winter. *Nanus* in Latin means *dwarf*, and, though the blooms may bring the majestic grandiflora to mind, that's where the similarity ends. The *nanus* produces fewer florets per spike (perhaps 6 or 7) and mature plants are shorter, generally 18 to 24 inches in height.

Planting

Gladioli need full sun, protection from damaging winds, and moist, well-drained soil. Very sandy or heavy clay soils should be amended with organic materials such as compost or leaf mold. Corms, which

should be unblemished and uniformly firm at planting time, grow best in medium-fertility soils with a pH between 6.0 and 6.5. For information about soil testing, refer to the following link:

<https://wpcdn.web.wsu.edu/extension/uploads/sites/44/2024/07/C131-Soil-Test-Labs.pdf>

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Revised 2025

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Prepare detailed waterproof plant markers and place them in the relevant areas as planting progresses. This onsite informational tool will be useful when it comes time to lift the corms in the fall. Plant corms as early as a month before the last average frost date. Place corms (pointed end up) at a depth of three to four times their diameter, and 4 to 6 inches apart. Cover with soil, press firmly and water thoroughly. Add a two- to four-inch layer of mulch around the plants once they begin to show growth. This will help preserve soil moisture and curb weed development. Remove spent blooms to encourage more flower production.

Note: If vertebrate pests, such as squirrels or voles, are a known problem, protect corms by wrapping them in galvanized hardware cloth or chicken wire cages. Plant at the recommended depth and spacing in a prepared garden bed.

A staggered planting of corms at 10 to 14 day intervals will result in a progression of blooms through the remainder of the season. Flowering usually begins 65-100 days after planting. Plant the last set in time to bloom before frost. Corms can be planted in rows or clustered in groups of five or more to great visual effect. Gladioli grow well in vegetable gardens but should not be located near beans or peas as they can inhibit their development.

Note: Since soil nutrients can become depleted, plan to relocate the gladioli to a fresh garden space after a few seasons. Restore soil with a generous application of organic matter or grow cover crops (perhaps common vetch or crimson clover) to top up the nitrogen content. Follow up with a soil test to make sure the bed has been adequately rejuvenated.

Staking

To maintain straight stem growth in taller gladiolus varieties, tie stalks to untreated wooden, bamboo or metal stakes. Choose stakes that will be long enough to support the plants at full maturity. Position stakes at planting time to avoid damaging corms and maturing root systems. Loop fabric strips, twine or weather-resistant vinyl tape around developing stems at regular, several-inch intervals and secure them so plants are upright but have some freedom of movement. Add or reposition ties accordingly as plants continue to grow.

Watering

Water gladioli regularly during growth. After flowering, continue watering while the leaves remain green. During dry weather, apply the equivalent of one inch of rainfall per week.

Fertilizing

To boost vigor, side-dress gladioli with a complete fertilizer such as 5-10-5 or 10-10-10. Make the first application when plants are 6-10 inches tall. Begin by creating a furrow that is several inches deep along one side of a planting row. Follow fertilizer package directions and distribute the recommended amount. Alternatively, sprinkle the product around the base of plants and gently work it into the soil. Keep fertilizer 4-6 inches away from the stems to prevent burning. Make a second application on the opposite side of the planting row when flower spikes begin to emerge from leaf sheaths.

Insects

Thrips are the most common pest problem for gladioli and are usually present wherever gladioli are grown. Equipped with asymmetrical mouthparts, this insect executes a two-stage attack by first puncturing plant tissue and then siphoning the juicy contents from buds, stems, leaves, flowers and even corms. Watch for telltale evidence of thrips infestation: damaged leaves that exhibit a streaky, silvery color, malformed buds, or an absence of flowering altogether.

Next, check the plants for thrips traffic. Use a magnifying lens (10-20x is recommended) to examine the interior of leaf sheaths and flower buds, along with both sides of leaves. Thrips larvae are only 1mm long when fully grown, but their glassy, butter-yellow coloring and red eyes make them unmistakable. To check for adult thrips, gently shake blooms and leaves over a sheet of white paper. With the aid of the magnifying lens, inspect the paper for a collection of small, dark-colored flecks. A degree of movement may also be detected in the flecks. The identifying feature of adult thrips is their

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fringelike wings. Mature females measure about 1/16th of an inch long and range in color from amber to black. The adult males are somewhat smaller, and they are lighter in color, usually dark brown.

To combat thrips, the home gardener may pursue a proactive non-chemical approach. For instance, an appropriate selection of native plants situated near the gladiolus bed would attract certain beneficial insects, such as lacewings, predatory mites and pirate bugs, all of which are natural enemies of thrips.

To learn more about thrips management, consult the following WSU Hortsense fact sheet: *Gladiolus: Thrips*
<https://hortsense.cahnrs.wsu.edu/fact-sheet/gladiolus-thrips/>.

For more information about beneficial insects, refer to this WSU extension publication: <https://vpcdn.web.wsu.edu/wp-ecommerce/uploads/site/2product-3364-sku-EM067E.pdf>

Diseases

Common gladiolus diseases include Botrytis blight (gray mold), Fusarium yellows and bacterial scab, as well as others. For more information about insect problems, diseases that affect gladioli, and appropriate control recommendations, refer to the following: [Hortsense | Washington State University](#) (a WSU extension website) and Pacific Northwest Pest Management Handbooks <https://pnwhandbooks.org>.

Winter storage

Most gladioli are not considered winter hardy in the Inland Northwest, so digging and storing corms is a natural end-of-season chore. When lifting corms, dig carefully so they won't be damaged. A garden fork is the best tool for this process. Begin digging when leaves start to die back, generally 6 to 8 weeks after blooming. When the plant is sufficiently loosened, grab the top growth and ease it from the soil. Gently brush excess soil away and cut stalks about 1 to 2 inches above the corm. If leaves are green at lifting time, allow them to wither naturally before cutting back. Be sure to dispose of discolored, diseased and damaged corms. To dry or cure the corms, spread them out in a single layer on a sheet of cloth, cardboard, or wire mesh screening and place them in a warm, moisture-free area (60-70°F) for 2-3 weeks. If temperatures are mild, they can be left outdoors in the sun for a day or two.

A sign that the drying process has been successful is the appearance of a cork-like layer between the base of the daughter corm and the shriveled remains of the mother corm. Gently grasp both ends and twist to remove the old material, then discard it.

Sort corms according to color, size, variety, etc., before preparing them for storage in a dry, frost-free area. Do not remove husks because the base of old leaf sheaths helps corms retain moisture. Dust corms with an all-purpose fungicide to protect them from insect and disease damage. Gather the corms in mesh bags or nylon stockings. Attach waterproof, color-coded labels to storage packages so corms may be easily identified later. Hang bags in a dry, frost-free area, such as an unfinished basement (away from a heating unit) or a root cellar. Temperatures between 35 to 45°F are considered ideal, but corms will do nicely at higher temperatures if they are kept dry and have good air circulation. Periodically check the stored corms to make sure that conditions have not fluctuated and unforeseen pest problems have not developed.

Propagation

Cormlets or cormels are small bulblets that develop between the base of newly formed corms and the top of mother corms. Handled properly, the cormels will develop into full-sized replacements for older corms that may become less vigorous over several seasons of growth. Remove cormels in the fall and store in mesh or paper sacks. In the spring, plant cormlets one or two inches deep. Plant them close together, about 20 per foot. Apply mulch and keep the planting area moist. Plants will grow several inches in the first year. Dig and store in the fall and plant again the following spring. In two to three years, they should develop into flowering-size corms. The larger the corm (1-1/4 to 1-1/2 inches or 1-1/2 to 2 inches in diameter), the likelier it is to produce quality blooms and robust stem growth.

!! Gladiolus - Potential Danger to Children and Pets

Contact with the plant may result in skin irritations (i.e., plant-induced contact dermatitis) or allergic reactions. Wear appropriate protective clothing when handling gladioli.

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Gladioli corms are poisonous. If corms are ingested by small children or animals (such as dogs, cats or horses) they may experience any of the following symptoms: salivation, vomiting, drooling, lethargy and diarrhea. Keep corms in a safe place prior to planting.

Resources:

Introduction/information about Gladiolus

<https://ipm.missouri.edu/meg/2022/5/glads-DT/>

Large-flowered, Miniature & Hardy Gladiolus section:

<https://ipm.missouri.edu/meg/2022/5/glads-DT/>

Planting section resource:

<https://extension.missouri.edu/publications/g6620>

Staking section resource:

<https://extension.missouri.edu/publications/g6620>

Watering section resource:

<https://extension.missouri.edu/publications/g6620>

Fertilizing section resource:

<https://extension.missouri.edu/publications/g6620>

Insects section resources:

<https://hortsense.cahnrs.wsu.edu/fact-sheet/gladiolus-thrips/>

<https://extension.usu.edu/planthealth/research/high-tunnel-pests-thrips>

<https://wpcdn.web.wsu.edu/wp-ecommerce/uploads/sites/2/product-3364-sku-EM067E.pdf>

Diseases section resources:

[Common Problems – Plant Diseases | Hortsense | Washington State University](#)

<https://pnwhandbooks.org/plantdisease>

Winter Storage section resources:

[August Birth Month Flower: The Gladiolus — Luzerne County — Master Gardener](#)

[How do I overwinter gladiolus bulbs? | Yard and Garden](#)

[Storing Tender “Bulbs” for Winter – Wisconsin Horticulture](#)

Propagation section resources:

<https://extension.missouri.edu/publications/g6620>

[Spring-Planted Bulbs, Corms, and Roots | Colorado State University Extension Website](#)

<https://extension.psu.edu/programs/master-gardener/counties/chester/how-to-gardening-brochures/bulbs-corms-rhizomes-and-tubers>

<https://extension.illinois.edu/flowers/bulbs>

Insects section resources:

[Gladiolus: Thrips | Hortsense | Washington State University](#)

[Thrips](#)

[Thrips | Landscape Pest Management](#)

Gladiolus – Potential Danger to Children and Pets section resource:

[Spring Plants that are Poisonous to Horses, Dogs, and Barn Cats](#)