Gladiola Corm Diseases

Purdue University Cooperative Extension Service

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GLADIOLA CORM DISEASES

Diseases of gladiolus corms are just as important as leaf and flower diseases. They are often responsible for unthrifty plants which produce unsatisfactory blooms. The more important bulb or corm diseases of gladiolus are described below.

Fusarium Wilt and Corm Rot

Fusarium wilt is probably the most common gladiolus disease and is often referred to as yellows. While there are several varieties of gladiolus resistant to this disease, no variety is entirely immune. Corms from plants infected with Fusarium will show a brown discoloration when the corm is cut in half. When infected corms are stored they will develop a firm rot which is light-tan to dark-brown in color. Badly infected corms may become mummified or greatly shrunken in storage. When infected corms are planted, the rot often progresses upward from the corm causing a dark discoloration and in some cases a rot at the base of the young plant. In some cases Fusarium-infected corms will rot in the ground without sprouting and in other instances will produce stunted plants with yellowed leaves. Since Fusarium is a soil borne fungus it will attack healthy gladiolus plants grown from good corms when they are planted in infested soil. Gladiolus infected with Fusarium wilt will have a characteristic "cowhorn" appearance, the florets will be small and the color of the blossoms usually is washed-out by conspicuous veins in the petals. Fusarium corm rot or yellows is caused by Fusarium oxysporum var: gladioli.

Bacterial Scab or Neck Rot

Bacterial scab is a destructive foliage disease which will spread to the bulbs in wet weather. Lesions of bacterial scab frequently appear on the corm husks as definitely outlined, pale yellow, water soaked circular spots. The scab lesions quickly turn light to dark brown and finally become shallow depressions surrounded by a definite raised margin. Another destructive symptom of bacterial scab on gladiolus corms is the production of gummy exudations that cause the husks to become glued to the corm. The individual scab lesions on gladiolus corms may be relatively small or may attain a size up to one-quarter inch in diameter. Scab lesions do not extend very far into the corm and may be readily removed. Cutting out the lesion leaves a saucer-shaped depression with a shiny, varnish-like appearance that still harbors the bacterial scab organism Pseudomonas marginata.

Sclerotinia Dry Rot

Gladiolus corms affected with this trouble characteristically have many small
lesions ranging in size from mere dots to large areas approximately one-half inch in diameter. Typical dry rot lesions are roughly circular and appear first as small, reddish-brown spots, usually on the side and lower half of the corm. These lesions frequently appear on the upper half as well. As the size of the dry rot lesions increases, the centers become sunken and the color changes to black with a slightly raised margin. In most cases, gladiolus corms infected with dry rot will mummify in storage. Dry rot is caused by the fungus Sclerotinia gladioli and infected corms can result in serious garden losses from a disease often referred to as "neck rot".

**Penicillium Rot**

Penicillium rot primarily attacks gladiolus corms in storage. It is caused by the fungus Penicillium gladioli which enters through mechanical injuries or breaks in the surface of the corm. Penicillium rot causes firm, reddish-brown sunken spots, usually slightly roughened by irregular concentric rings. Generally, numerous egg-shaped, tan colored sclerotia (fungus fruiting bodies) will be found embedded in the rotted tissues of the corm.

**Hard Rot or Septoria Rot**

Hard rot, caused by Septoria gladioli, produces dark-brown, sunken, irregular lesions on the corms. The rot will progress until the entire corm becomes hard and mummified. As the corm rots the leaves die from the tip back. On gladiola leaves the disease appears as small, yellow, circular spots containing numerous black specks or spore-producing structures. The causal fungus overwinters in gladiolus debris in the soil and on the affected corms.

**Control of Gladiola Corm Rots**

Gladiolus corm rots may be successfully prevented if growers and amateur gardeners follow a coordinated control program. The suggestions outlined below will largely prevent or greatly reduce corm rot losses.

1. Dig corms anytime between 30 days after blooming and the first killing frost, when the ground is fairly dry. The corms should be cured for 2 to 3 weeks at 80 to 90°F and a relative humidity of approximately 80 percent.

2. Avoid bruising or injuring corms while digging and handling. Shake off all loose soil, dry and discard damaged or diseased bulbs before storing good corms.

3. Dust freshly dug corms with Thiram (Arasan, Tersan) Sperrgon, Phygon or Captain (Orthocide), or a general purpose dust containing one or more fungicides and insecticides. Use an amount of chemical equal in quantity to an aspirin tablet for each quart of corms. Place the dust and corms in a paper sack and shake vigorously to coat the corms uniformly.

4. After chemical treatment, the corms should be dried or "cured" for seven to 21 days at 70-90°F.

5. After curing, remove the old corms and roots as soon as the new corm (bulblet) can be removed easily. Cut off all tops and dried leaves close to the new corm.
6. If possible, store the corms in shallow, screen wire bottomed trays (or in loose mesh sacks). Keep them as cool as possible, without freezing, in a well ventilated room with low humidity (around 75 percent). Allow ventilation room between trays if they are stacked in tiers.

7. Burn all old garden plant debris in the fall and practice clean cultivation.

8. Before planting, dust healthy corms with a Thiran-dieldrin mixture such as Delsan A-D Seed Protectant or Panoram D-3l.
How to Recognize Gladiola Corm Diseases

Fusarium Rot

Bacterial Scab

Sclerotinia Dry Rot

Penicillium Rot

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