

Plant Disease Notes

Leaf Spots of Mustard and Turnip

Four fungal diseases commonly occur on mustard and turnip greens in Alabama. Development of Cercospora leaf spot (*Cercospora brassicola*), white spot (*Pseudocercospora capsellae*), anthracnose (*Colletotrichum higginsianum*), and downy mildew (*Peronospora parasitica*) is favored by wet conditions.

Symptoms. Cercospora leaf spot causes leaf lesions that vary in color from pale green to gray to white and generally have a brown border. Lesions may be circular or angular in appearance. Severely infected plants may become defoliated. The disease is also known as frog-eye leaf spot.

White spot causes circular spots with gray, brown, or nearly paper-white centers with slightly darkened margins. Spots form on the cotyledons, leaves, and petioles. Infected foliage may turn yellow and drop prematurely. Seedlings can be killed when the disease is severe.

Anthracnose attacks turnips and mustard but is also a serious problem on broccoli, collards, and kale. Anthracnose leaf spots are small, pale gray to straw colored, dry and circular. Spots can also appear on stalks and are elongated, sunken, gray to brown, and have a black border. The fungus can also attack turnip roots causing small,

dry, sunken areas that become tan to gray in color and deeper in depth as they enlarge. The disease often predisposes infected roots to bacterial soft rot.

Downy mildew results in a grayish white “fluffy” mold forming in spots on the undersurface of the leaf. A faint yellowing appears on the corresponding upper leaf surface. Spots enlarge and turn tan in color and papery in texture. Severe infections can result in leaf death; infected young plants may die.

Persistence and Transmission.

All four diseases are favored by wet conditions and are usually spread by wind or rain. Their activity varies based on temperature. Cercospora leaf spot and white spot can be seed borne, but more commonly survive in volunteer plants and perennial weeds. Both diseases are favored by cool temperatures (55 to 64 degrees F) and abundant moisture.

Anthracnose can survive in dead leaves, in volunteer plants, and possibly in certain related weed hosts. The disease is most severe at temperatures between 79 and 86 degrees F when plenty of moisture is present.

Downy mildew overwinters in turnip roots and on old tops left in the field. The disease is favored by heavy fogs, light rains, prolonged dews, and

cool night temperatures (46 to 61 degrees F) and day temperatures below 75 degrees F.

Control. Employing a combination of the following strategies can control fungal leaf spots of turnip and mustard greens.

*Eradicate cruciferous weeds and volunteer turnip and mustard plants.

*Follow a long (2 to 3 years) crop rotation scheme using noncruciferous crops.

*Improve soil drainage.

*Avoid overhead irrigation.

*Scout fields and apply a registered fungicide when disease first appears. Benlate is registered for fungal leaf spot disease control on turnips, but not on mustard greens. Copper containing products are registered for both crops. See Extension publication ANR-500-A, *Alabama Pest Management Handbook—Volume 1*, for a list of recommended fungicides.



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Trade names are used only to give specific information. The Alabama Cooperative Extension System does not endorse or guarantee any product and does not recommend one product instead of another that might be similar.

Use chemicals only according to the directions on the label. Follow all directions, precautions, and restrictions that are listed.

For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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