

Downy Mildew (Peronosporaceae Family)



Figure 1 Downy mildew on basil



Figure 2 Downy mildew on cucumber

Damage

Downy mildew affects the leaves, branches, and stems, developing first on the lower leaves. Initial symptoms include leaf yellowing with yellow brown spots on the upper leaf surface, followed by leaf browning. Affected leaves will curl and wilt, and on the underside of the leaves a fuzzy material will develop (gray/purple in the case of basil, brown to purple in cucurbits, fluffy white in cole crops such as broccoli, cabbage, cauliflower).

When Active

The pathogen thrives in high humidity (more than 6 hours of 100% relative humidity) with air temperatures of 59 -77 degrees Fahrenheit. It can spread rapidly.

Susceptible Plants

There are a number of varieties of the pathogen, affecting a range of hosts: basil, cucurbits (cucumber, watermelon, butternut squash, muskmelon, pumpkin, cantaloupe), grapes, peas, broccoli, cauliflower, cabbage, Brussels sprouts, spinach, garlic, leeks, and shallots.

Prevention Methods

Plant cultivars that are bred with resistance to downy mildew. In the case of basil, avoid planting sweet basil. Purple leafed varieties, Thai basil, lemon basil, and spice basil have greater resistance to the pathogen. If you do decide to plant sweet basil, choose the variety 'Eleonora' which has been bred with some resistance to the disease. Keep your plants as dry as possible. Leave sufficient space between plants to insure good air circulation and avoid overhead watering.

Treatment

There is no known cure for downy mildew. Use of fungicide treatments is NOT recommended. If you detect basil downy mildew, harvest the unaffected plants and leaves immediately (to make pesto). Remove and bag all affected plant remains and dispose of this material in your garbage.

Additional Information/Resources

- UW Extension Garden Fact Sheet [XHT1257 Basil Downy Mildew](#)
- UW Extension Bulletin [A3978 Cucurbit Downy Mildew: Identification and Management](#)
- UW Extension Bulletin [A3684 Growing Broccoli, Cauliflower, Cabbage, and Other Cole Crops in Wisconsin](#)
- Dane County UW Extension Horticulture Hotline 608-224-3721 (M-F 9 a.m.-12 noon, April 15-October 31) or horticulture@countyofdane.com