

POWDERY MILDEW ON GARDEN PLANTS

Powdery Mildew is a common disease and most gardens have at least one plant that is infected regularly. Diseased plants have white or grey powdery blotches on the surface of leaves, stems, and/or flowers. Leaves may be twisted or curled before this fungal growth is evident, or leaves will appear yellow or brown, and fall prematurely. Young foliage or shoots are particularly susceptible to infection. The disease is caused by a group of fungi, with similar life histories and appearance, but each type attacks only 1 or 2 host plants. Symptoms are most common in the late summer or early fall. While the disease rarely kills host plants, the symptoms are unsightly, and diseased plants may be more prone to overwintering injury. The following is a list of plants that are particularly susceptible to infection: Woody plants - Azalea, Catalpa, Roses, English oak, Lilac, Honeysuckle, Catalpa, Cherry, Euonymus, Flowering crab-apple, Silver Maple, Horse Chestnut, Privet, Sycamore, Viburnum, Walnut, Willow. Herbaceous plants - Dahlia, Delphinium, Phlox, Shasta Daisy, Snapdragon, Zinnia, Chrysanthemum, Turf, Squash, Zucchini and other garden vegetables.

POWDERY MILDEW - LIFE HISTORY

Powdery Mildew produces microscopic spores which are dispersed by wind and rain. These spores germinate when they land on an appropriate host. The fungi grow like fine hairs on the surface of leaves or flowers, but may also penetrate into plant cells. Powdery Mildew grow best when the relative humidity is high at night and lower during the day, and at temperatures between 22 and 27 ° C. These conditions typically occur in late

summer. Powdery mildew overwinters as tiny spherical black structures called cleistothecia on infected plant material.

HOW DO I MANAGE POWDERY MILDEW WITHOUT RESORTING TO SYNTHETIC PESTICIDES

- When purchasing plant material, select plants or varieties of plants that are naturally resistant to infection by powdery mildew.
- Avoid conditions of high humidity: avoid planting susceptible plants in shaded areas where plants are cooler and humidity is higher. Do not crowd susceptible plants. Thin dense foliage by pruning to allow air to circulate. This allows leaves to dry more rapidly.
- Use soaker hoses when watering to avoid wetting leaves. Avoid night watering during the late summer.
- Where young foliage is being affected, reduce fertilizer (especially nitrogen) applications. This will decrease the amount of young, susceptible growth.
- Sulphur prevents Powdery Mildew spores from germinating, but will not 'cure' infected plants. Apply to susceptible plants before mildew is evident. It is important to note that some plants are damaged by sulphur, and that sulphur cannot be applied following horticultural oil. As with all pesticides, read and follow all label directions.
- In the fall, clean up and remove or destroy all infected plant debris. This removes the overwintering stage of this fungus, and potentially reduces the

amount of disease next year. Do not compost it on your property, send it to the City compost.

Research trials have shown that some common household products show promise for managing powdery mildew:

- A spray containing 50% water and 50% milk controlled powdery mildew on zucchini when applied weekly.
- Baking soda combined with ultra fine horticultural oil controlled powdery mildew in greenhouse experiments (1 tbsp baking soda, 2.5 tbsp. oil, and 1 gal. water).

For more information on powdery mildew, check the following web sites:

<http://www.ext.colostate.edu/pubs/garden/02902.html>

<http://www.ianr.unl.edu/pubs/plantdisease/g1321.htm>