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Plant Disease Control

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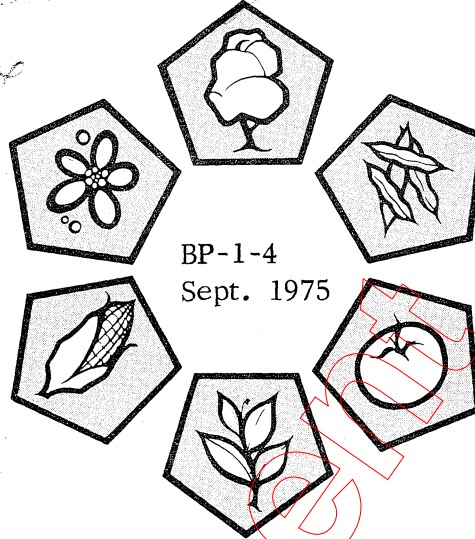
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Purdue University
Department of Botany and Plant Pathology
Lilly Hall of Life Sciences

Plant Disease Control



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Powdery Mildew of Garden Flowers

Paul C. Pecknold, Donald H. Scott, Walter R. Stevenson

Powdery mildew is a common disease of garden flowers. It generally occurs in late summer or early fall, especially if the weather is cool and night dews are heavy enough to remain on the plants during the morning. Flowers most often affected are chrysanthemum, dahlia, delphinium, honeysuckle, ivy, lilac, phlox, privet, rose, snowberry and zinnia. Roses may be attacked as early as June.

SYMPTOM AND CAUSE

Mildew is easily recognized. It appears as white, powdery blotches on leaves, stems and buds (see Figures 1 and 2).

Any one of seven closely-related fungi can cause powdery mildew. These fungi usually first attack leaves that are crowded and close to the ground. Fungus spores are spread to upper leaves and to nearby plants by wind or splashing rain. Once a plant is infected, the leaves turn yellow and drop prematurely. Flower buds may fail to open or develop normally. Mildew also weakens perennials and makes them more subject to winter injury.

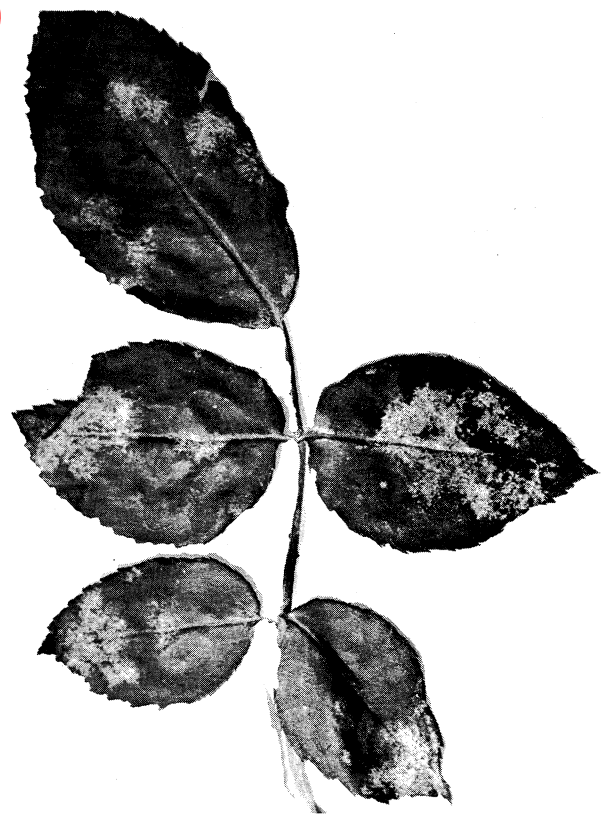


Figure 1. Mildew on roses.

CONTROL MEASURES

Gardening Practices

Powdery mildew is favored by prolonged periods of wet foliage. Maintaining conditions that favor rapid drying of foliage will help reduce disease incidence. Plant powdery mildew susceptible flowers in open areas where they will not be crowded. Plants in shade are more prone to mildew than those growing in sun. Prune during the summer to thin out any dense foliage. This will not lessen plant bloom but will increase aeration in the garden. Avoid nightly sprinkling during August and September. Instead, soak the soil as needed.

Powdery mildews are generally most severe on young succulent growth which excessive nitrogen fertilizer promotes. A balanced fertilization program is advisable in which nitrogen fertilization is lowered and potassium fertilization is increased.

In the fall, clean up and dispose of all mildew-infected plant debris. This will help to reduce the amount of disease next year.

Chemical Control

In most years, chemical spraying or dusting is necessary for adequate control on susceptible varieties along with the gardening practices just mentioned. Powdery mildew can occur anytime throughout the growing season; apply fungicide at the first sign of disease. To insure against fall infection, start spray applications no later than August

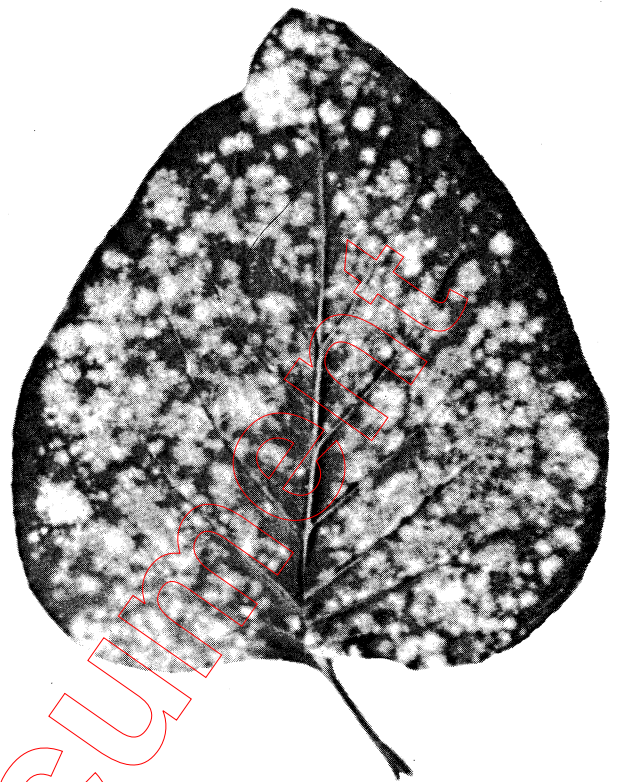


Figure 2. Mildew on lilacs.

15, and repeat at 10 to 14 day intervals through September if rainy fall weather occurs.

Materials effective in controlling powdery mildew are listed in Table 1. Apply pesticides only to plants listed on labels to avoid injury.

ALWAYS READ THE LABELS ON CONTAINERS TO DETERMINE CONTENTS AND DIRECTIONS FOR USE.

Table 1. Materials effective in controlling powdery mildew

Chemical	Sold as	Remarks
Benomyl	Benlate, etc.	A good spreader-sticker is necessary.
Cycloheximide	Actispray; Actidione-PM; etc.	May damage foliage.
Dinocap	Karathane-WD or Miller's Garden Karaspra, etc.	Use with a good spreader-sticker; may damage foliage.
Sulfur	Various trade names	May damage foliage.
Folpet	Ortho Phaltan Rose Garden Fungicide; Chevron Folpet 75% WP; Stauffer Folpet, 50 and 75% WP; etc.	If powdery mildew is severe, use one of the other suggested fungicides.

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