



POWDERY MILDEW OF RED CLOVER

Powdery mildew, caused by the fungus *Erysiphe polygoni*, occurs wherever red clover is grown. The disease can attack plants at any stage of maturity, but it is most prevalent in late summer and early fall when nights are damp and cool and days are warm and dry. Long periods of relatively dry summer weather favor its development and spread; frequent rains discourage it.

Powdery mildew can reduce both yield and quality of forage and hay. Ordinarily it is of little consequence on the first hay crop, but is more abundant on the second.

The powdery mildew fungus attacks some 360 different species of plants in over 150 genera. There are many strains or physiologic races, each able to attack different genera and species of plants. Physiologic races differ in their ability to attack clover species and even varieties within a species.

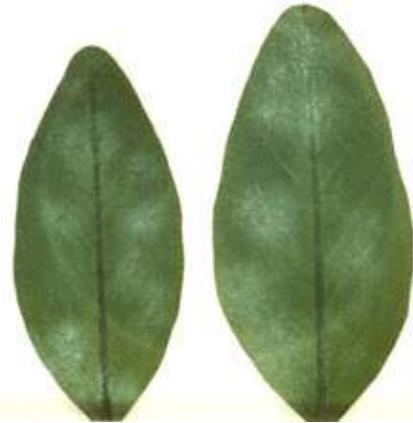


Figure 1. Powdery mildew of red clover.

SYMPTOMS

Small patches of fine, white to pale gray, cobwebby growth develop on the upper leaf surface. The patches later enlarge and merge, and the leaf surface looks as if it has been dusted with white flour (Figure 1). The fungus may also grow on the lower surface of the leaves and on the stems. Severe attacks can make entire fields appear white. Infected leaves may turn yellow and wither prematurely.

DISEASE CYCLE

The powdery mildew fungus survives the winter on diseased plants as fungus fruiting bodies (cleistothecia) that appear as black specks.

Ascospores are produced within asci in the cleistothecia and provide primary inoculum. The ascospores are released when the cleistothecia and asci split open and are blown to leaves. Infections can occur at any time during the growing season, but are most common from midsummer to early fall. Conidia, produced in chains on the cobwebby growth, are formed in great numbers and provide the main source of secondary inoculum. Cleistothecia are formed again in the autumn to complete the cycle. The microscopic ascospores and conidia are blown from plant to plant by air currents.

For further information contact Dean K. Malvick, Extension Specialist, Department of Crop Sciences, University of Illinois at Urbana-Champaign.

CONTROL

1. When feasible, plant adapted red clover varieties that are resistant to powdery mildew. For currently recommended varieties refer to Illinois Agricultural Pest Management Handbook which is available at your nearest Extension office or at ITCS, University of Illinois P345, 1917 S. Wright St., Champaign, IL 61820.
2. Practice balanced fertility based on soil test recommendations.
3. Harvest on a timely schedule, especially after the first cutting.
4. Clean all harvesting equipment before the first harvest and when going from field to field.
5. Control weeds and insects following recommendations of University of Illinois Extension Weed Specialists and Entomologists. Controlling weeds and insects helps to reduce stresses on plants.