

PLPA-CUC001-2008

DOWNY MILDEW OF CUCUMBER

Downy mildew is a wind-borne disease affecting leaves, caused by the fungus, *Pseudoperonospora cubensis*. Other species of cucurbits are infected, but some strains of the fungus that infect cucumber may not infect other cucurbits such as watermelon. Under cool, rainy conditions, the disease has the potential to increase extensively and cause substantial leaf damage in a matter of days (Fig. 1).



Fig.1. Extensive and severe symptom development.

Leaf wetness for at least one hour is required for the spores to germinate and infect. Reproduction of the fungus requires at least 6 hours of 100% relative humidity and is optimal at a temperature range of 60-68 °F. The earliest symptom are watersoaked spots delimited by veins, giving them an angular appearance (Fig. 2). Later, these spots dry out (Fig. 3).

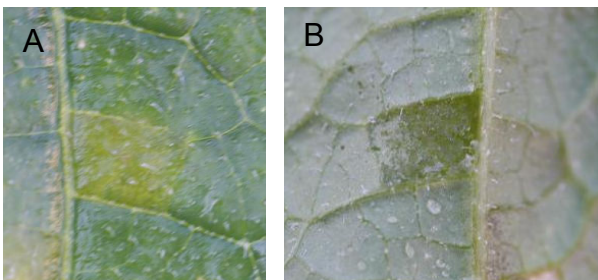


Fig. 2. Detail of earliest symptom of watersoaking on the top (A) and underside (B) of leaf.

Diagnosis is confirmed by finding “staghorn” spore-bearing structures (Fig. 5) associated with the leaf spots.

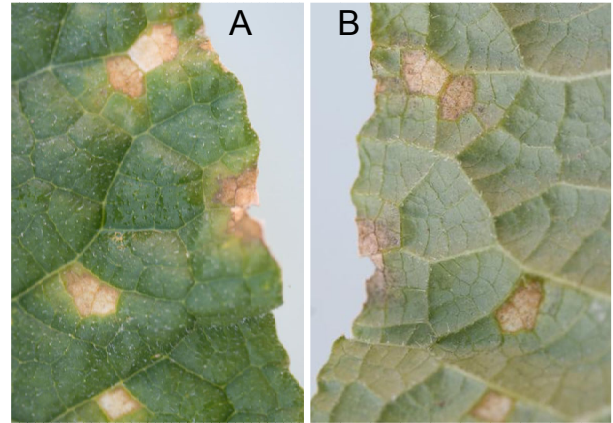


Fig. 3. Detail of later symptom on top (A) and underside (B) of leaf.



Fig. 4. Early symptom on a leaf.

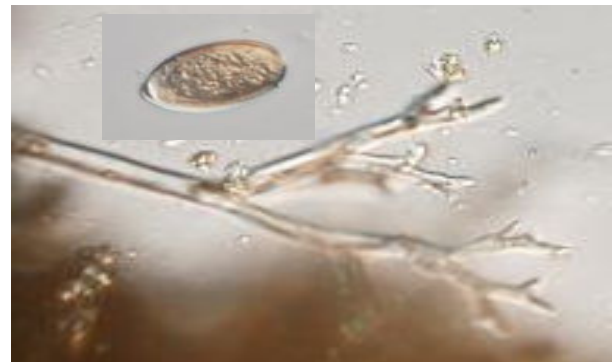


Fig. 5. Appearance under the microscope, showing spore and “staghorn” spore-bearing structure.

Text and Photos by Dr. Thomas Isakeit, Professor and Extension Plant Pathologist
November, 2008

The information given herein is for educational purposes only. References to commercial products or trade names are made with the understanding that no discrimination is intended and no endorsement by Texas AgriLife Extension Service personnel is implied.
Educational programs of the Texas AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age, or irrational origin.
The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating