AgriLIFE EXTENSION
Texas A&M System

PLANT PATHOLOGY & MICROBIOLOGY

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).

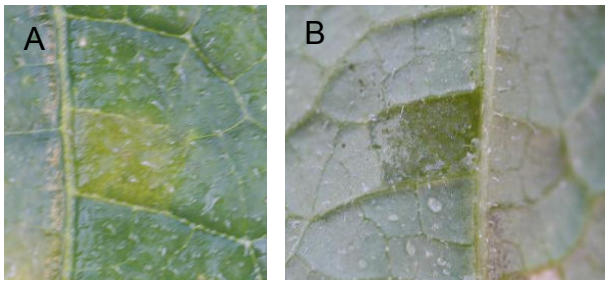

Fig. 2. Detail of earliest symptom of watersoaking on the top (A) and underside (B) of leaf.

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

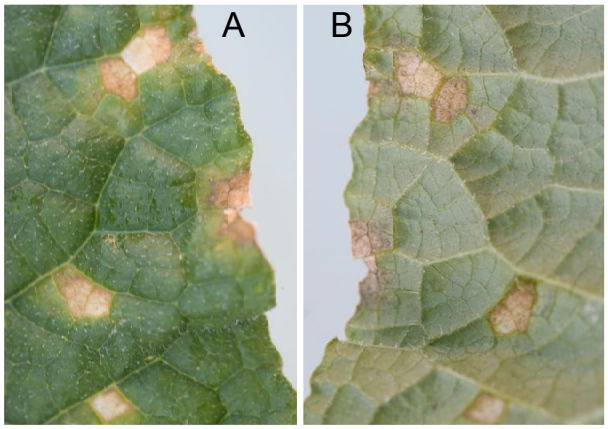

Fig. 3. Detail of later symptom on top (A) and underside (B) of leaf.

Fig. 4. Early symptom on a leaf.

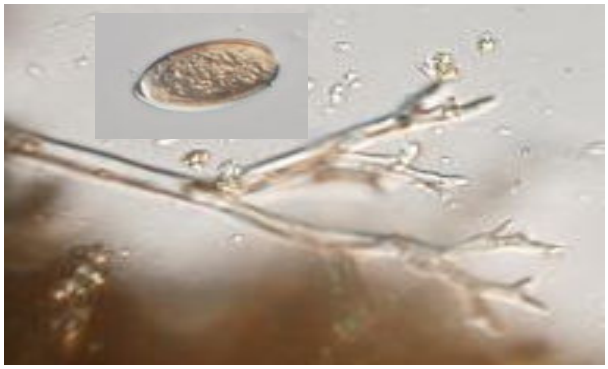

Fig. 5. Appearance under the microscope, showing spore and "staghorn" spore-bearing structure.

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