

# Downy Mildew on St. Augustinegrass in Mississippi

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## ABSTRACT

Bruton, B. D., Toler, R. W., and Blasingame, D. L. 1981. Downy mildew on St. Augustinegrass in Mississippi. *Plant Disease* 65:925.

Surveys of St. Augustinegrass for the presence of St. Augustine decline strain of Panicum mosaic virus in central and southern Mississippi were negative, but they did reveal the presence in Jones County of downy mildew caused by *Sclerophthora macrospora*.

Downy mildew on St. Augustinegrass, *Stenotaphrum secundatum* (Walt.) Kuntze, was first reported in Florida and Texas in 1969 (6). The symptoms were raised, light-colored, linear streaks parallel to the leaf veins. The disease was later reported in Arkansas in 1972 by Dale and Toler (4) and in Louisiana in 1973 by Holcomb et al (5). The downy mildew fungus on St. Augustinegrass was subsequently identified by Bruton et al (1,3) as *Sclerophthora macrospora* (Sacc.) Thirum., Shaw, & Naras. Damage by this fungus is especially severe on St. Augustinegrass growing in floodplains (2,3). Leaves become yellow and die prematurely. Leaf distortion and reduction in internode length are also frequently observed. Plants may be

predisposed to leaf spot and drought stress (1).

St. Augustinegrass is a major lawn grass in central and southern Mississippi, especially where shade tolerance is required. St. Augustine decline, caused by the St. Augustine decline strain of Panicum mosaic virus, was reported in Texas in 1969 (7). Since the first report, yearly surveys have been taken in central and southern Mississippi to determine the presence of the virus.

We took several grass samples in the summer of 1979 from St. Augustinegrass lawns that exhibited poor vigor in Natchez, Jones County (southwest Mississippi). Samples having symptoms of viral disease were bioassayed for the presence of Panicum mosaic virus and maize dwarf mosaic virus on German strain-R millet (*Setaria italica* (L.) Beauv.) and grain sorghum (*Sorghum vulgare* Pers.), respectively. The samples tested negative for both viruses.

Other St. Augustinegrass samples showed definite symptoms of downy mildew as described by Jones and Amador (6). When leaves were floated on water for 12 hr at 15 or 20 C, numerous

lemon-shaped sporangia (70–95 × 45–67 μm) were produced on short sporangio-phores protruding through stomata. Zoospores measuring 18–20 × 13–15 μm were subsequently released through operculate sporangia. Oospores were not observed within leaf tissue, confirming previous research (1,6). Based on these observations and previous studies (1,3), we believe that the disease was caused by *Sclerophthora macrospora*.

Downy mildew of St. Augustinegrass has now been found in the following states (in the order listed): Florida, Texas, Arkansas, Louisiana, and Mississippi.

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