

SORGHUM DOWNY MILDEW – PART 1: SYMPTOMS

Sorghum downy mildew (SDM) is caused by a soilborne fungus, *Peronosclerospora sorghi*. The disease is most common in the Upper Gulf Coast counties of Texas, but has been seen in other sorghum production areas. Recent outbreaks have been associated with strains of the fungus resistant to the seed treatment fungicide, Apron.

Infected seedlings are pale yellow or have light-colored streaking or mottling on the leaves (Fig. 1), often accompanied by a white, fuzzy growth of the fungus on the underside of leaves (Fig. 2). These symptoms indicate systemic infection by the fungus. Such plants will not yield.



Fig. 1. Sorghum downy mildew in a seedling: systemic symptom.



Fig. 2. Underside of leaf showing fungal growth.

Leaves that emerge later have white, parallel stripes of green and white tissue (Fig. 3). (Do not confuse this striping with iron chlorosis, which results in a pale color between veins; the white stripes of SDM are not limited to veins and vary in width.) Later in the season, these striped areas die, turn brown, and disintegrate, resulting in a shredded leaf (Fig. 4). Overwintering spores (oospores) of the fungus are produced in this tissue, fall to the soil and overwinter there.



Fig. 3. Sorghum downy mildew, mid to late season systemic symptom.

The white, fuzzy growth on systemically-infected plants indicate the production of short-lived spores, known as sporangia. Sporangia are produced in cool, humid or wet weather. They become airborne and infect leaves of other plants, causing a local lesion phase of SDM. Local lesions are brown and somewhat rectangular (Fig. 5).



Fig. 4. Sorghum downy mildew, late season.



Fig. 5. Local lesions.

Local lesion infections can become widespread throughout a field, but cause no yield loss and are usually short-lived. New infections cease as the temperature increases during the season. Local lesions do not produce oospores. Under cool, wet conditions, however, infection of young seedlings by sporangia can result in systemic infections in some hybrids.

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