

Philippine downy mildew of corn

Peronosclerospora philippinensis (W. Weston) C.G. Shaw, 1978 (syn. *P. sacchari* (T. Miyake) Shirai & Hara 1927 (Oomycetes)

Primary hosts

Maize (*Zea mays*), oats, sugarcane, wild sugarcane, sorghum

Symptoms

Chlorotic stripes or overall yellowing on the first true and successive leaves. There may be a downy growth of conidia and conidophores. Sporulation may occur on both sides of the leaves but is more



abundant on the lower surface. Tassels may be malformed and produce less pollen, and ears may be aborted. No external symptoms are visible on stems but the fungus invades the stem and the shoot apex. Early affected plants are stunted. The fungus becomes established within the seed as a mycelium in the pericarp, the embryo and the endosperm. Seed quality is not affected.

Life Cycle

Infection is by airborne conidia from an infected crop or weed species, with high rates of infection at temperatures greater than 16°C. Spore production requires high humidity, with at least a thin film of water on the infected leaf surface. Germinating conidia produce germ tubes which invade stomata. A mycelium develops in the mesophyll. Low rates of seed transmission can occur from seeds harvested with higher moisture content. Different isolates vary in virulence.

Current geographic distribution

Asia, Africa

Impact in Oregon

Negligible

Symptoms on maize
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