© 2004 Plant Management Network.
Accepted for publication 2 January 2004. Published 19 January 2004.

First Report of *Plasmopara halstedii* on Perennial Black-Eyed Susan in North Florida

Hank Dankers, Senior Biologist, North Florida Research and Education Center; **James W. Kimbrough**, Mycologist, Plant Pathology Department, IFAS, University of Florida, Gainesville, Florida 32611-0680; **M. Timur Momol**, Plant Pathologist, North Florida Research and Education Center, IFAS, University of Florida, Quincy, Florida 32351-5677

Corresponding author: M. Timur Momol. tmomol@ufl.edu

Dankers, H., Kimbrough, J. W., and Momol, M. T. 2004. First report of *Plasmopara halstedii* on perennial black-eyed susan in North Florida. Online. Plant Health Progress doi: 10.1094/PHP-2004-0119-01-HN.

In August 2003, the Florida Extension Plant Diagnostic Clinic in Quincy, FL, received a perennial black-eyed-susan (orange coneflower) (*Rudbeckia fulgida* Ait. Goldsturm) plant exhibiting symptoms of downy mildew (Fig. 1). Nearly all of approximately 0.2 hectares of potted plants grown by a nursery were symptomatic. Affected plants did not produce flowers. Downy mildew has not been previously reported on perennial black-eyed-susan in Florida. This occurrence was observed after excessive rains in July and August 2003.

Fig. 1. Downy mildew symptoms on Goldsturm perennial black-eyed-susan leaves.

Symptoms included dark blotchy necrotic areas on adaxial leaf surface and fuzzy grayish-white areas of sporulation on both sides of affected leaves (Fig. 1). Sporangiophores were monopodially branched at right angles with acutely tapering termini (Fig. 2). Sporangia were ovoid to elliptical, hyaline (Fig. 3) and measured 21 to 27×15 to $21 \mu\text{m}$. Based on these features, the organism was identified as *Plasmopara halstedii* (Farl.) Berl. & de Toni (2). A voucher specimen (no. FLAS F-57538) was deposited with the Herbarium of J.W. Kimbrough at the University of Florida. *Plasmopara halstedii* was previously reported on *Rudbeckia laciniata* in northern States, on marshelder (*Iva xanthifolia* Nutt.) in North Dakota and on many Compositae (Asteraceae) genera (1,2,3). The source of inoculum for the disease outbreak is not known.

Fig. 2. Sporangiophore of *Plasmopara halstedii*.

Fig. 3. Sporangia of *Plasmopara halstedii*.

This is the first report of *P. halstedii* on perennial black-eyed-susan in Florida. This occurrence of downy mildew resulted in the loss of 6,500 potted plants that were not marketable at the targeted time frame.

Literature Cited

1. Farlow, W. G. 1883. Enumeration of the Peronosporaeae of the United States. Botanical Gazette 8:305-315.
2. Gulya, T. J. 2002. First report of cross-infectivity of *Plasmopara halstedii* from marshelder to sunflower. Plant Dis. 86:919.
3. Hall, G. 1989. CMI description of pathogenic fungi and bacteria no. 979. *Plasmopara halstedii*. Mycopathologia 106:205-207.