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# First Report of Soybean Rust Caused by *Phakopsora pachyrhizi* in Nebraska

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# plant disease

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Disease Notes

## First Report of Soybean Rust Caused by *Phakopsora pachyrhizi* in Nebraska

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Soybean rust caused by *Phakopsora pachyrhizi* Sydow was first observed in the continental United States in Louisiana in November 2004 (2). As part of the national soybean rust monitoring effort, samples were collected on 3 October 2007 during the scouting of fields with green leaves in southeastern Nebraska. After incubation at room temperature for 24 h, uredinea and urediniospores were observed with microscopic examination. Urediniospores were obovoid, hyaline to pale brown, and measured 20 to 30 × 18 to 20 µm. The observed morphology was typical of *P. pachyrhizi* (1). In addition to microscopic observation, *P. pachyrhizi* was confirmed with real-time (q)-PCR with *Taq* DNA polymerase on 4 October 2007 with the q-PCR standard operating procedure version 1.9 outlined by the USDA-CSREES and utilized by the National Plant Diagnostic Network with appropriate positive and negative controls (1). Samples initially identified with soybean rust were from Richardson County near the town of Rulo and in Otoe County south of Nebraska City. On 12 October 2007, soybean rust was confirmed in adjacent Pawnee and Nemaha counties. Soybean rust was identified in six fields with an incidence and severity of less than 1%. In fields where the disease was identified, the disease was distributed in low-lying, shaded areas near wind breaks. Although soybean rust was detected in four southeastern Nebraska counties, soybean yields were not affected by the disease. At the time of first detection, more than 80% of the Nebraska soybean crop was harvested. To our knowledge, this is the first report of *P. pachyrhizi* on soybeans in Nebraska, and currently, the northwestern most find on any host in the continental United States.

*References:* (1) R. D. Frederick et al. *Phytopathology* 92:217, 2002. (2) R. W. Schneider et al. *Plant Dis.* 89:774, 2005.