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First Report of Soybean Rust Caused by *Phakopsora pachyrhizi* in Ghana.

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Nigeria is the only country in West Africa where soybean rust, caused by *Phakopsora pachyrhizi*, has been officially reported (1). During a disease survey in Ghana during October 2006, soybean (*Glycine max*) leaves with rust symptoms (tan, angular lesions with erumpent sori exuding urediniospores) were observed in 11 fields in the following districts: Kassena Nankana in the Upper East Region; East Gonja, Central Gonja, and Tolon-Kumbungu in the Northern Region; and Ejisu-Juabeng in the Ashanti Region. Disease incidence in these fields ranged from 50 to 100% and disease severity ranged between 3 and 40% of the leaf area on infected plants. Urediniospores were hyaline, minutely echinulate, and 23 to 31 × 14 to 18 µm. Within a week of collection, leaf samples were sent to the USDA-ARS Foreign Disease-Weed Science Research Unit for verification of pathogen identity. DNA was extracted from leaf pieces containing sori with the Qiagen DNeasy Plant Mini kit (Valencia, CA), and all 11 field samples amplified in a real-time fluorescent PCR with the *P. pachyrhizi*-specific primers Ppm1 and Ppa2 (2). Sequence alignment of the internal transcribed spacer (ITS) region 2 further confirmed the identification as *P. pachyrhizi* (2). Infected leaves from three fields were separately washed in sterile water to collect urediniospores that were used to separately inoculate three detached leaves (for each isolate) of susceptible cultivar TGx 1485-1D (3). The abaxial surface of detached leaves was sprayed with 400 µl of spore suspension (1 × 10(^6) spores per ml). A single leaf piece was placed in a 9-cm-diameter petri dish with adaxial side appressed on 1% technical agar amended with 10 µg/ml of kinetin. Lactic acid (1.5 ml/liter) and benomyl (12.5 mg/liter) were added to the agar medium to inhibit growth of saprophytic fungi and bacteria. Petri dishes were incubated at 20°C with a 12-h light/12-h dark cycle. Lesions on inoculated leaves developed 5 to 6 days after inoculation (DAI), and pustules (105 to 120 µm) formed 7 to 8 DAI and erupted 3 days later exuding columns of urediniospores similar in size to the initially collected isolates. Inoculating another set of detached leaves with a spore suspension (1 × 10(^6) spores per ml) from the first set of detached leaves resulted in typical rust symptoms. The PCR assay, alignment of ITS region 2, morphological characters of the isolates, and pathogenicity tests demonstrate that *P. pachyrhizi* occurs in Ghana. To our knowledge, this is the first report of *P. pachyrhizi* in Ghana.

References: (1) O. A. Akinsanmi et al. Plant Dis. 85:97, 2001. (2) R. D. Frederick et al. Phytopathology 92:217, 2002. (3) M. Twizeyimana et al. Online

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