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Report of *Pythium* spp. on soybean seedlings in Northeast Iowa

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In a soybean planting date and variety maturity study in 2016, at the Northeast Research and Demonstration Farm, Nashua, damping off symptoms were observed (June 23). A total of 60 symptomatic plants were collected and processed for isolation on both PDA and PARP media. Within 2-4 days after incubation, culture plugs of individual putative *Pythium* spp. were subcultured on PDA and incubated at 22±1°C in 16h fluorescent light. The culture plates were identified via colony morphology, growth rate, and sequencing of the nuclear rDNA ITS1-5.8S-ITS2 region (ITS barcode). For DNA sequencing, cultures were grown on PDA for 2-4 days then extracted with PrepMan Ultra. The ITS barcode was amplified and sequenced in both directions using universal primers ITS6 and ITS4, and assembled sequences were compared against the NCBI database using NCBI BLASTn. Isolate “C1-2” had 99% (855/864 bases) identity with *Pythium orthogonon* HQ643723; isolates “D2-1”, “D1-2”, and “A2-1” had 100% (822/822), (814/814), and (823/823 bases) identity, respectively, with *P. inflatum* AY598626; isolates “2-3” and “1-4” had 100% (876/876) and (870/870 bases) identity, respectively, with *P. ultimum* var. *ultimum* KU210728; isolate “-4” had 100% (826/826 bases) identity with *P. torulosum* AY598624; isolate “-?” had 100% identity with both *P. ultimum var. ultimum* KU211001 (662/662 bases) and *P. ultimum var. sporangiferum* KT429653 (659/659 bases); isolate “-??” had 100% identity (886/886 bases) identical with isolate “-?”. Pathogenicity of all nine isolates, along with a positive control (*P. irregulare*), was proven in greenhouse conditions on Pioneer22T61R planted in potting mixture mixed with individual *Pythium* isolates fermented on sterilized rice. An un-inoculated treatment served as a negative control. Subsequently, *Pythium* spp. were re-isolated from symptomatic plants. Average *Pythium* damping off incidence across isolates was 22.7% but varied among isolates (ranging from 1.2% in isolate “A2-1” to 79.8% in isolate “2-3”). Considering the diversity of *Pythium* spp. in a given location, management may be challenging either in early or late planted soybean.