

**First Report of Blight of Common Bean Caused by *Phytophthora capsici* in Connecticut**  
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*Phytophthora capsici* Leonion was first identified on pepper (*Capsicum annuum* L.) and is widespread in distribution infecting solanaceous and cucurbitaceous crops. It was first documented infecting a member of the genus *Phaseolus* (*P. lunatus* L.) in Delaware in 2002 (1), snap beans (*Phaseolus vulgaris* L.) in the field in Michigan in 2003 (2) and later on Long Island, NY in 2008 (3). In 2009 we observed snap and wax beans in commercial production with water-soaked lesions on foliage, stems and pods. Twelve to sixteen ha were affected in the flood plain of the Connecticut River in central Connecticut. Weather conditions had been warm and very wet. Lesions displayed white mycelia and sporangia. *P. capsici* was isolated from surface sterilized tissue on PDA and MEA. Hyphal tips were subcultured onto V8 media for further analysis. To confirm Koch's postulates, two isolates were tested for pathogenicity against bean (cv. Valentino) and pepper (cv. Cayenne) by placing colonized PDA plugs or PDA alone next to the crown or in stem branches. Symptoms similar to those observed in the field on both bean and pepper developed on inoculated plants and the pathogen was re-isolated. Controls did not develop disease. Sporangia of *P. capsici* growing on V8 medium were ellipsoid, ovoid, pyriform, but occasionally irregular, papillate, and  $54.0 \pm 5.7 \mu\text{m}$  in length  $\times$   $31.1 \pm 4.7 \mu\text{m}$  in width ( $n=31$ ) with a L/W ratio  $1.8 \pm 0.3$ . The papillae were  $5.4 \pm 0.9 \mu\text{m}$  ( $n=31$ ) and the pedicels were  $24.5 \pm 12.6 \times 3.0 \pm 1.0 \mu\text{m}$ . Sporangia collected from bean plants were smaller with longer pedicels; the sporangia were  $44.9 \pm 9.1 \times 26.0 \pm 2.8 \mu\text{m}$  with a L/W ratio of  $1.7 \pm 0.2$ ; papillae were  $4.6 \pm 1.0 \mu\text{m}$ ; and the pedicels were  $49 \pm 20.0 \times 2.8 \pm 0.9 \mu\text{m}$  ( $n=20$ ). To confirm the identity of our isolate genetically, DNA was extracted from one *P. capsici* isolate and the nuclear ribosomal internal transcribed spacer (ITS) region was amplified and sequenced (GenBank # GU011684). The ITS sequence was identical to sequences of *P. capsici* in GenBank and confirmed our identification of this new isolate as *P. capsici*. To our knowledge, this is the first report of *P. capsici* infecting *Phaseolus vulgaris* in Connecticut and New England.

*References:* (1) Davidson, C.R., R.P. Mulrooney, R.B. Carroll and T.A. Evans. 2002. First report of *Phytophthora capsici* on lima bean in Delaware. *Plant Disease* 85:886. (2) A. J. Gevens et al. *Plant Disease* 92:201-209, 2008. (3) M. T. McGrath. [http://vegetablemdonline.ppath.cornell.edu/NewsArticles/Bean\\_phytoJune09.html](http://vegetablemdonline.ppath.cornell.edu/NewsArticles/Bean_phytoJune09.html) 112:43, 2005.