2012 APS Annual Meeting
Abstracts of Presentations

Abstracts submitted for presentation at the APS Annual Meeting in Providence, Rhode Island, August 4–8, 2012 (including abstracts submitted for presentation at the 2012 APS Northeastern Division Meeting). The abstracts are arranged alphabetically by the first author's name. Recommended format for citing annual meeting abstracts, using the first abstract below as an example, is as follows: Abbas, H. D., Shier, W., Weaver, M. A., and Horn, B. W. 2012. Detection of aflatoxigenic Aspergillus flavus contamination of coconut (Cocos nucifera) nutmeat (copra) using ammonia treatment. (Abstr.) Phytopathology 102(Suppl. 4):S4.1. http://dx.doi.org/10.1094/PHYTO-102-7-S4.1

Outer membrane protein OmpA is required for disease symptom development and colonization of sugarcane by *Xanthomonas albilineans*

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Xanthomonas albilineans (Xa) is a systemic, xylem-invading pathogen that causes sugarcane leaf scald. Xa produces albicidin, the only known pathogenicity factor in Xa. To identify additional pathogenicity factors, 1,216 independent Tn*5* insertions in Xa strain XaFL07-1 were screened for reduced pathogenic symptoms and reduced capacity to multiply in stalks of cultivar CP80-1743. Five (8.2%) independent insertions with reduced symptoms and capacity to multiply in stalks were found in *XaompA1* (XALc_0557), predicted to encode an OmpA family outer membrane protein. One mutant, M768, was able to consistently colonize stalk tissue but at severely reduced levels. Additional studies showed that all 5 mutants 1) produced albicidin, 2) were less motile (except M768), 3) were unable to grow in the presence of SDS (except M768), and 4) were slower growing than the wild type *in vitro*. Complementation was confirmed by two constructs; one carrying only the OmpA domain of XALc_0557, which provided partial complementation and the other carrying the entire *XaompA1* gene, which provided full complementation. This work shows that *ompA* is required for disease symptom development and colonization of sugarcane by Xa.

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