

# From Identification to Epidemiology

Studies on an emerging pathogen occurring  
on cucurbit fruit in Washington

Science and Mathematics  
Colloquium Series

## Wed., March 18, 3 p.m.

Join with Zoom:

<https://asu.zoom.us/j/483913045>

Dr. Lydia Tymon will discuss recent research in plant pathology. In 2015 and 2016, 'Cinnamon Girl' pumpkin was used as a test crop for evaluating biodegradable plastic mulch films at Washington State University's Northwestern Washington Research & Extension Center. In both years, marginal leaf chlorosis, often bordered by necrotic tissues, and circular lesions on the fruit were observed. The fruit lesions had a discolored spot, sunken dimple, or necrotic spot located in the center, giving a bull's-eye appearance, and raised warts often developed later on causing the rind to crack near wart edges. Bacteria were isolated from symptomatic leaves and fruit. Koch's postulates were fulfilled, and a multilocus sequence analysis and phylogenetic analysis were performed. Bacterial isolates were distinct from *Pseudomonas syringae* pv. *lachrymans*, the strain historically associated with cucurbits. The isolates clustered within the *P. syringae* genomospecies 1 phylogroup 2b clade, which also includes *P. syringae* pv. *syringae*. Although plant disease epidemics caused by bacteria can be initiated from a variety of inoculum sources (e.g. irrigation water, weeds and plant debris, soil), contaminated seeds represent a major source for disease outbreaks and facilitate movement of pathogens into new geographical locations. For strains occurring in Washington, seed infection via systemic infection of the host is unlikely. However, further studies are warranted before systemic seed infection can be conclusively ruled out.



**Lydia Tymon**

Postdoctoral Research Associate and Program Leader, Washington State University

Lydia Tymon earned a PhD in plant pathology from Washington State University and MS from the University of Washington. She currently serves as a postdoctoral research associate and program leader in vegetable pathology at WSU. Her research uses a combination of greenhouse, field, and lab-based experiments to investigate the underlying pathology and disease progression in a variety of vegetable crops. To accomplish this, she incorporates molecular and applied lines of evidence.

*Faculty and practitioners discuss their current research and field projects in the Science and Mathematics Colloquium Series, held throughout the academic year at ASU's Polytechnic campus. All seminars are free and open to the public.*