School of Plant Sciences Seminar

Tuesday, October 7 • 4pm • Marley 230 and Zoom*
Coffee, cookies, and collegiality: 3:30pm, Marley lobby

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"Area-wide Displacement of Aflatoxin Producing Fungi by Non-Aflatoxigenic *Aspergillus flavus* Biocontrol in Tree Nut Cropping Systems"

Sponsored by the School of Plant Sciences
Hosted by Marc Orbach

*Please join us in person if you can. Remote participation is also welcome: https://arizona.zoom.us/j/86313228861 (passcode: SPLS2025)

Abstract: Carcinogenic mycotoxins known as aflatoxins are produced by several *Aspergillus* species. Aflatoxigenic fungi contaminate a variety of crops, including pistachios, resulting in product rejection and economic losses due to strict regulatory limits. One effective tactic for mitigating risk of aflatoxin contamination in pistachio orchards is the application of naturally occurring, non-aflatoxigenic strains of *Aspergillus flavus*. Formulated biocontrol products are applied to orchard soils on a grain carrier that serves as a nutrient source, and the non-aflatoxigenic *A. flavus* active ingredient sporulates under suitable conditions and competitively excludes aflatoxigenic strains. A long-term goal of biocontrol application is to achieve widespread displacement of aflatoxin producing fungi associated with crops, thereby reducing the risk of aflatoxin contamination events. This study examines the area-wide, multi-year impacts of biocontrol application in Arizona and California tree nut growing regions. This information will aid in understanding dispersal and persistence of a non-aflatoxigenic *A. flavus* biocontrol strain throughout the agroecosystem and aid in the optimization of biological control application recommendations in pistachio.

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