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Title: Biorational Control: Mechanism, Selectivity and Importance in IPM Program

Organizers: Isaac Ishaaya¹ and A. Rami Horowitz² Rm: D135, 8:30–10:30a, Thursday

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IPM in Arizona Cotton: Successful adoption of selective controls for multiple key insect pests. Peter C. Ellsworth¹, Steven Naranjo^{1,2}, John C. Palumbo¹, Al Fournier¹. ¹University of Arizona, Arizona Pest Management Center, Department of Entomology, and ²USDA-ARS, Arid Lands Agricultural Research Center, Maricopa, AZ 85238, USA. E-mails: peterell@cals.arizona.edu, steve.naranjo@ars.usda.gov, jpalumbo@cals.arizona.edu, fournier@cals.arizon.edu.

Integrated Pest Management (IPM) depends on maximal use of ecosystems services for the control of target pests, and prevention of secondary pest outbreaks and costly pest resurgences. “Biorationals” can be key to exploiting ecosystems services such as natural enemy conservation, but are not a US-EPA recognized pesticide classification. They are generally considered to be compounds of natural origin and/or of such target specificity that they have limited or no adverse effects on the environment and beneficial organisms. Because ecosystems services are specific to the community they serve, a compound’s classification as “biorational” depends on the context in which it is used. This presentation will detail a working model for deploying successful IPM in high input / high value systems where multiple pests are managed through validated biorational and other approaches, and where growers make specific decisions to preserve valuable compounds for the future through proactive resistance management.