

Risk Assessment and Containment for Plant Research

American Biological Safety Association
2014 Annual Meeting
San Diego, California

Dann Adair was the lead instructor for a day long, pre-conference course at the 2014 American Biological Safety Association annual meeting in San Diego, CA. The course, entitled *Risk Assessment and Containment for Plant Research*, was team taught along with Dr. Kirk Martin, USDA-APHIS and Ms. Malendia Maccree, Biosafety Officer, University of California, Davis, CA. Kirk shared his extensive experience in APHIS permitting, risk assessments, biosafety and research. Ms. Maccree has an excellent background in molecular biology, greenhouse and field handling of GMO plants, research and biosafety. Twenty-four attendees received 7.5 PACE continuing education hours and recommend the course to be offered again. The course abstract and learning objectives follow.

Risk Assessment and Containment for Plant Research

Research on plants and their associated organisms routinely conducted in laboratories, greenhouses, growth chambers, growth rooms, and screen houses is 'in containment' vs. research conducted in the field or natural ecosystem. This presents a range of challenges and opportunities for conducting quality research while meeting any regulations or guidelines. Due to the limited guidance on the topic and the relatively smaller niche of plant biosafety, attendees are presented a unique opportunity. The course will cover the fundamentals of plant pathology, plant pest interactions, and molecular technologies used in plants necessary to inform risk assessment for research. It will also explore various design and construction techniques, equipment, and management concepts needed to meet programmatic and regulatory requirements. USDA ARS, APHIS, NIH, and selected international guidelines and regulations will be referenced. Case studies and interactive learning exercises will provide an opportunity to apply knowledge and skills gained in the course.

Learning outcomes

1. Recognize common types of experiments conducted with plants and plant pests
2. Apply risk assessment methodology to plant-based research
3. Gain knowledge in plant research facility design and equipment (greenhouses, growth chambers, inoculation rooms, seed and plant handling)
4. Identify regulations and guidelines which apply to plant research
5. Understand the similarities and differences between plant containment and human biohazard containment
6. Gain familiarity with incident response and applicable reporting requirements