Oral Abstracts

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TOXICITY, RISK, AND DECISIONS: WHAT THE CLINICIAN NEEDS TO KNOW ABOUT PESTICIDES.

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An important partnership exists between the production of food and ensuring safe ways of doing so. Fertilizers, pesticides, and new seed variants have more than doubled or tripled agricultural output since the 1950's. At the same time, comprehensive testing and regulatory approaches were developed to ensure that these developing agricultural technologies could be used safely. In the 1960's and 70's animal-based protocols established the toxicity of active ingredients. The 1980's and 90's refined these protocols and introduced the concept of risk-based evaluations, which took into account potency of the toxicological effect as well as potential human exposure. The 2000's saw the advent of in vitro and computer-based modeling of toxicity that has reduced animal testing and provided accelerated evaluation of chemicals in general and agricultural active ingredients in particular. Since the late 2000's, new methods and approaches have increased our understanding of potential adverse effects in humans while supporting a safe and abundant supply of food. This presentation will explore the development of tests that provide a clear picture of potential human toxicity by showing how certain old and new active ingredients were developed and commercialized. Participants will gain an in-depth knowledge of how testing is done, the data that is produced and interpreted, and the sources of information for clinicians to form science-based decisions on safety and health.