

Cumulative Risk Assessment Update for PPDC

Section 408(b)(2)(D)(v) of the Federal Food, Drug, and Cosmetic Act (FFDCA) requires EPA to take into account “available evidence concerning the *cumulative effects* of such [pesticide] residues and other substances that have a *common mechanism of toxicity*”. The Office of Pesticide Programs (OPP) has developed two guidance documents:

- *Guidance For Identifying Pesticide Chemicals and Other Substances that have a Common Mechanism of Toxicity* (USEPA, 1999) which describes the process for establishing CMGs;
- *Guidance on Cumulative Risk Assessment of Pesticide Chemicals That Have a Common Mechanism of Toxicity* (USEPA, 2002) which describes the steps used in conducting CRA.

The process described in these documents results in a highly refined cumulative risk assessment (CRA) but requires an extensive amount of resources, large amounts of toxicology and exposure data, and may involve sophisticated modelling. The process involves developing science policy documents that establish a common mechanism group (CMG) before conducting a highly refined CRA. The level of refinement provided by this approach is not necessary or even feasible for all existing pesticide classes. The 2002 CRA guidance notes that not all cumulative assessments need to be of the same depth and scope and that it is important to determine the need for a comprehensive risk assessment by considering the exposure profile.

In July 2015, EPA requested public comment on the draft guidance document, *Pesticide Cumulative Risk Assessment: Framework for Screening Analysis*. In April 2016, EPA published two documents 1) a document that addresses the comments received on the guidance document and the final guidance document itself which incorporates some changes based on the public comments [both are available at www.regulations.gov, EPA-HQ-OPP-2015-0422]. This document provides guidance on how to screen groups of pesticides for cumulative evaluation using a two-step approach beginning with the evaluation of available toxicological information and if necessary, followed by a risk-based screening approach. This framework supplements the existing guidance documents for establishing CMGs and conducting CRAs. During Registration Review, the agency will utilize this framework to determine if the available toxicological data for a group of chemicals suggests a candidate CMG may be established. If a candidate CMG is established, a screening-level toxicology and exposure analysis may be conducted to provide an initial screen for multiple pesticide exposure. By establishing guidance for conducting a screening-level analysis of chemicals that have potential cumulative risks, EPA will be able to more efficiently prioritize its cumulative risk assessments. Before development of this framework, cumulative assessments required extensive resources, large amounts of data, and sometimes involved labor-intensive scientific analysis. This screening-level approach will ultimately allow EPA to address the FFDCA requirements to consider available information concerning cumulative effects of pesticides having a common mechanism of toxicity while efficiently using resources.