

REDUCING PESTICIDE RISKS TO HUMAN HEALTH: FQPA AND THE CHANGING REGULATORY CLIMATE

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EPA is engaged in a methodical pesticide re-assessment that:

- 1) categorized pesticides into high-, medium-, and low-risk;
- 2) is evaluating pesticides first on an individual basis considering aggregate exposure and then considering cumulative exposure to pesticides with common mechanisms of toxicity;
- 3) is taking into account health endpoints beyond cancer, including neurological damage, infertility, and developmental disabilities.

High risk pesticides include those in the organophosphate, carbamate, and organochlorine classes; pesticides classified as probable human carcinogens (groups B1 and B2); possible human carcinogens (group C) for which EPA has quantified a cancer potency; high-hazard inert ingredients; and any pesticides that, based on the best available data at the time of scheduling, exceed their reference dose (RfD). For a list of high-risk pesticides, go to <http://www.epa.gov/oppfead1/fqpa/group1.pdf>. In making the determination as to which pesticides appear to pose the greatest risk to the public health, whenever possible EPA has taken into account exposure to infants, children, and other sensitive sub-populations.

So far, EPA has spent much of its effort re-evaluating organophosphates and our aggregate exposure to them. Re-assessing aggregate exposure for most OPs so far indicates that the exposure routes of highest concern tend to be fiber production and urban uses, rather than aggregate exposure to food (with some exceptions with certain fruit and vegetables). Exposure to farmers, farm workers, and applicators is also of high concern for health reasons, which has resulted in risk mitigation through stricter worker protection standards and limitations on pesticide application methods. Many of the OP assessments are at or near the capacity of the “risk cup” using only aggregate exposure measures, indicating that re-assessment based on cumulative exposure will further reduce the allowable use of many OPs. Computer software for evaluating both aggregate and cumulative exposure risk was released in December 2000 and is available for use on a sliding scale fee. As during the aggregate assessment phase, data quality and quantity will greatly impact FQPA cumulative risk assessments.

To date, EPA has completed full re-registration eligibility decisions (REDs) for six pesticides (diclofopmethyl, ethyl parathion, temephos, terrazole, triallate, and vinclozolin). This brings the total of completed REDs to 204. In addition, in 2000, EPA completed seven

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interim REDs for organophosphate and carbamate pesticides (bensulide, fenthion, oxamyl, phorate, profenofos, propetamphos, and tribufos). These interim decisions address the individual risks associated with these pesticides. In December 2000, EPA announced the phase-out of diazinon. Diazinon is used for crop pest protection on apples and cranberries in Wisconsin. Final REDs will be completed when the cumulative risk assessments for the organophosphates and carbamates are completed. EPA also completed tolerance reassessment eligibility decisions (TREDs) for six pesticides for which REDs are not required. Manufacturers registered pesticides (cadusafos, chlorethoxyfos, coumaphos, fenitrothion, mevinphos, and phostebupirim) after the current requirement for re-registration took effect, and so do not have registered uses in the United States, or have previously completed REDs. EPA thus only required a review to ensure that the tolerances (maximum residue level in food) meet the FQPA safety standard.

EPA reassessed 3551 tolerances, or 55% of the goal for 2002 of completing 66% of all necessary tolerance reassessments. In fiscal year 2000, EPA reassessed 121 tolerances. EPA posts these documents on its web site (www.epa.gov/REDs). For an up-to-date summary of EPA actions on pesticide reassessment go to <http://www.epa.gov/opsrrd1/op/status.htm>

There are several responses to FQPA as EPA implements it. The American Crop Protection Association has taken EPA to court to justify its approach to implementation. ACPA also has legislative bills in both the House and Senate to change the nature of FQPA. Go to <http://www.acpa.org/public/pubs/fqpapubs.html> for more information on ACPA's proposed legislation. Given the 2000 election outcome, it is unclear how quickly either of these bills might move through Congress under the next Administration.

The USDA-Economic Research Service is monitoring the promise of genetically-modified crops as a pesticide risk reduction strategy, but so far their study results are inconclusive. This is, in part, because of issues around grower adoption. For the text "Genetically Engineered Crops for Pest Management in U.S. Agriculture," go to <http://www.ers.usda.gov/epubs/pdf/aer786/>. Another complication in assessing risk reduction results from inadequate risk assessment of biotechnology, according to a recent review of studies conducted by fellows at the American Association for the Advancement of Science.^{2/}

In Wisconsin, grower organizations are working together to investigate and promote options to high-risk pesticides. In addition to identifying and supporting critical research over the past three years, these organizations are developing outreach materials for their memberships to raise awareness of high-risk pesticides, and introduce them to basic IPM concepts and practices. For a list of organizations participating in the project, research results, and more information on their activities, go to <http://www.uwex.edu/ces/susag> and visit the "Pesticide Use and Risk Reduction Project" portal.

^{2/} A summary of this report can be found in the 15 December 2000 issue of Science.