

assumed that 100% of the proposed crops and all other crops having acetamiprid tolerances were treated and that all treated crops and livestock had residues of concern at the tolerance level. The general U.S. population and all population subgroups have exposure and risk estimates which are below EPA's LOC (i.e., the cPADs are all below 100%). The most highly exposed subgroup is children 1 to 6 years of age, which utilizes 21% of the cPAD.

iii. *Cancer.* EPA has determined that acetamiprid is not likely to be a human carcinogen and EPA, therefore, does not expect it to pose a cancer risk. As a result, a quantitative cancer dietary exposure analysis was not performed.

2. *Dietary exposure from drinking water.* The Agency lacks sufficient monitoring exposure data to complete a comprehensive dietary exposure analysis and risk assessment for acetamiprid in drinking water. Because the Agency does not have comprehensive monitoring data, drinking water concentration estimates are made by reliance on simulation or modeling taking into account data on the physical characteristics of acetamiprid.

The Agency uses the First Index Reservoir Screening Tool (FIRST) or the Pesticide Root Zone/Exposure Analysis Modeling System (PRZM/EXAMS), to produce estimates of pesticide concentrations in an index reservoir. The Screening Concentrations in Ground Water (SCI-GROW) model is used to predict pesticide concentrations in shallow ground water. For a screening-level assessment for surface water EPA will use FIRST (a tier 1 model) before using PRZM/EXAMS (a tier 2 model). The FIRST model is a subset of the PRZM/EXAMS model that uses a specific high-end runoff scenario for pesticides. While both FIRST and PRZM/EXAMS incorporate an index reservoir environment, the PRZM/EXAMS model includes a percent crop area factor as an adjustment to account for the maximum percent crop coverage within a watershed or drainage basin.

None of these models include consideration of the impact processing (mixing, dilution, or treatment) of raw water for distribution as drinking water would likely have on the removal of pesticides from the source water. The primary use of these models by the Agency at this stage is to provide a coarse screen for sorting out pesticides for which it is highly unlikely that drinking water concentrations would ever exceed human health levels of concern.

Since the models used are considered to be screening tools in the risk

assessment process, the Agency does not use estimated environmental concentrations (EECs) from these models to quantify drinking water exposure and risk as a %RfD or %PAD. Instead, drinking water levels of comparison (DWLOCs) are calculated and used as a point of comparison against the model estimates of a pesticide's concentration in water. DWLOCs are theoretical upper limits on a pesticide's concentration in drinking water in light of total aggregate exposure to a pesticide in food, and from residential uses. Since DWLOCs address total aggregate exposure to acetamiprid they are further discussed in the aggregate risk sections in Unit III.E.

Based on the FIRST and SCI-GROW models the EECs of acetamiprid for acute exposures are estimated to be 17 parts per billion (ppb) for surface water and 0.0008 ppb for ground water. The EECs for chronic exposures are estimated to be 4 ppb for surface water and 0.0008 ppb for ground water.

3. *From non-dietary exposure.* The term "residential exposure" is used in this document to refer to non-occupational, non-dietary exposure (e.g., for lawn and garden pest control, indoor pest control, termiticides, and flea and tick control on pets).

Acetamiprid is currently registered for use on the following residential non-dietary sites: As an outdoor insecticide on ornamentals, flowers, vegetable gardens, and fruit trees. The risk assessment was conducted using the following residential exposure assumptions: Residential handlers (homeowners) are assumed to make the maximum number of applications at maximum use rates with little use of any protective equipment. Potential dermal and inhalation doses that homeowners may receive during applications of pesticides to the garden, around walkways, driveways, foundations, vegetables, and ornamentals were considered; therefore, exposures and risks are calculated for both dermal and inhalation exposures. This scenario assumes that pesticides are available for inhalation or have the potential to come in contact with the skin of adults and youths during the mixing/loading and application of pesticides used around the garden. The short- and intermediate-term handler MOEs for the residential uses of acetamiprid for both age groups of adults and youth are at or greater than 120,000 for all exposure scenarios, and therefore represent risks that are below EPA's level of concern.

Postapplication exposures were calculated assuming dermal exposure to adults and children while working in

treated gardens or with various fruit trees and ornamentals. Inhalation exposure was not quantitatively addressed because exposure by inhalation is considered minimal due to the air exchange that occurs in outdoor scenarios. In addition, toddlers are not expected to spend a significant amount of time in a home garden and any resulting incidental oral exposures would be minimal and not quantifiable; therefore, EPA does not believe that incidental oral exposure from the registered homeowner uses will result in significant incidental oral exposures to children. This scenario assumes that pesticide residues are transferred to the skin of adults and youth who enter treated gardens for gardening or other homeowner activities. The short- and intermediate-term postapplication MOEs for the residential uses of acetamiprid for both age groups of adults and youth are at or greater than 18,000 for all exposure scenarios, and therefore represent risks that are below EPA's level of concern.

4. *Cumulative effects from substances with a common mechanism of toxicity.* Section 408(b)(2)(D)(v) of the FFDCA requires that, when considering whether to establish, modify, or revoke a tolerance, the Agency consider "available information" concerning the cumulative effects of a particular pesticide's residues and "other substances that have a common mechanism of toxicity."

EPA does not have, at this time, available data to determine whether acetamiprid has a common mechanism of toxicity with other substances. Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, EPA has not made a common mechanism of toxicity finding as to acetamiprid and any other substances, and acetamiprid does not appear to produce a toxic metabolite produced by other substances. For the purposes of this tolerance action, therefore, EPA has not assumed that acetamiprid has a common mechanism of toxicity with other substances. For information regarding EPA's efforts to determine which chemicals have a common mechanism of toxicity and to evaluate the cumulative effects of such chemicals, see the policy statements released by EPA's Office of Pesticide Programs concerning common mechanism determinations and procedures for cumulating effects from substances found to have a common mechanism on EPA's website at <http://www.epa.gov/pesticides/cumulative>.