● BASIC INFORMATION ABOUT PESTICIDES ●

DO PESTICIDES POSE SPECIAL HAZARDS TO CHILDREN?

Recent research shows that pesticides are particularly hazardous for children.

Neurotoxic pesticides are a special concern. Because children's eating patterns are different from those of adults, children, for their size, eat more pesticides on their food than adults. The National Research Council estimated that every day, over a hundred thousand two-year olds consume more than our government's "acceptable levels" of a common group of neurotoxic pesticides.

In addition, children whose parents use pesticides, both in the home and on the farm, are at higher risk for certain health problems. These problems include childhood brain cancer, birth defects, miscarriages, and premature birth.

Children's special susceptibility to pesticides was first widely publicized by the National Research Council (NRC) in their 1993 report *Pesticides in the Diets of Infants and Children*. The NRC concluded that children are not adequately protected from pesticides on their food because, for their size, children consume more calories, drink more water, and eat fewer types of food than adults. The NRC recommended changes in the regulation of pesticides.[1] Many of these changes were included in a 1996 law (the Food Quality Protection Act; FQPA), but have yet to be fully implemented.

Neurotoxic Pesticides

As an example of children's vulnerability to pesticides, the NRC focused on the large and widely used family of organophosphate insecticides and noted that these pesticides share the same neurotoxic effect. They looked at two-year olds, the foods they commonly eat, and total pesticide exposure for common members of the organophosphate family. Based on this data, the NRC estimated that large numbers of children are exposed to unacceptable amounts of these pesticides: *Every day*, 45,500 American two-year olds consume organophosphates in amounts above the U.S. Environmental Protection Agency's acceptable level, and some children would consume ten times this much. When juice was included in the NRC's calculations, the number rose to 143,500 children.[1] These calculations remain valid, because the FQPA's changes have not yet been implemented for organophosphates.

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Other Hazards to Children

Recent research has linked a wide variety of health problems in children to their parent's exposure to pesticides.

Examples include:

• A study of children with brain cancer in Los Angeles County (California) found that these children were twice as likely as children without the disease to have been exposed prenatally to flea and tick insecticides when their mothers treated their pets.[2]

• In California counties with high agricultural pesticide use, the incidence of limb reduction birth defects is also high.[3]

• In Minnesota, farmers licensed to apply pesticides on their farms are more likely to have children with birth defects. This association was particularly strong in counties with high use of fungicides and herbicides related to 2,4-D.[4]

• A study of Canadian farmers found that use of the insecticide carbaryl was associated with an increased incidence of miscarriage and the use of the herbicides atrazine and 2,4-DB was associated with an increased risk of premature birth.[5]

Taken together, these studies are a clear demonstration that pesticides' effects on children's health are a cause for concern.

References

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