

Toxic chemicals in your food? How regulation, technological innovation protect consumers from pesticides

Understanding the magnitude and impact of dietary pesticide exposures is a concern for some consumers. However, the ability of consumers to obtain and understand state-of-the-science information about how pesticides are regulated and how dietary exposure limits are set can be limited by the complicated nature of the regulations coupled with an abundance of sources seeking to cast doubt on the reliability of those regulations.

Indeed, these regulations are sometimes not well understood within health care professions. As such, the objective of this review is to provide a historical perspective as to how modern pesticides were developed, current trends in pesticide use and regulation, and measures taken to reduce the risk of pesticide use to the consumer.

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Many of the pesticides used by today's farmers, in fact, contain the same active ingredients available to general consumers for home and garden uses. And, like consumers who use them at home, farmers have many options above and beyond pesticide application to control weeds, insects, and diseases. Indeed, pesticides often complement nonchemical methods to ensure the most-effective pest control Recent developments that improve precision in agriculture allow farmers to better control how much pesticide they apply and where it is applied. For instance, global positioning system (GPS)–directed sprayers allow targeted applications, increasing efficacy and decreasing waste Indeed, farmers carefully plan and monitor their pesticide usage so as to apply as little as possible

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Advances in agricultural practices have, in fact, kept the total use of pesticides relatively unchanged since the mid-1980s. New pesticidal compounds undergo substantial safety testing and assessment by manufacturers before the data are reviewed by the EPA, and its risk assessments identify the amounts that may be consumed by both adults and children without raising concerns of adverse health impacts.

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In the early-to-middle 20th century as chemical synthesis became common, however, there was a shift toward the manufacture and use of pesticides with lower application rates, less toxicity to crop plants, and more specificity to their target organisms [S]ince the early 1970s there has been greater emphasis on developing pesticides that degrade faster, do not accumulate, and have less toxicity to humans and wildlife. In fact, pesticide use in agriculture declined after the early 1980s, with insecticides showing the most reduction in the total weight applied.

The EPA also sets tolerances on a crop-by-crop basis to ensure that aggregate exposures do not exceed acceptable levels. Both the FDA and USDA monitor pesticides in the US food supply to ensure any

pesticides present do not violate tolerances approved by the EPA.

Read full, original article: [Assessing the Safety of Pesticides in Food: How Current Regulations Protect Human Health](#)