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All About Alar

How a growth regulator sprayed on apple trees inadvertently became a major player in NRDC's fight to protect children from toxic pesticides.

March 14, 2016 | Melissa Denchak

"Our nation's children are being harmed by the very fruits and vegetables we tell them will make them grow up healthy and strong."



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So began NRDC's 1989 [peer-reviewed study](#) "Intolerable Risk," which revealed that the diets of America's preschoolers contained dangerous levels of pesticide residues and exposed our nation's failure to adequately protect children from agricultural risks. It also sparked a chain of events that led to critical improvements in food-safety policy, including 1996's Food Quality Protection Act. But these victories involved a brutal uphill battle.

Prior to that study, scientists had long worried that calculations for pesticide health risks didn't account for children's unique vulnerabilities. Kids are smaller, they often eat more fruits and vegetables than adults do, and their growing bodies likely make them more susceptible to the effects of toxic chemicals, including pesticides. But back then, no one had ever quantified pesticide exposure levels or the subsequent health risks to America's youth in a comprehensive way. NRDC's report was the first detailed analysis to do just that by examining the impacts of 23 agricultural chemicals applied to fruits and vegetables eaten regularly by children age six and younger.

Among those chemicals was Alar (trade name for daminozide), a growth regulator (not a pesticide) that's sprayed on apple trees to cut waste and labor costs by keeping fruit from falling before it is ripe. Alar topped NRDC's list of substances—along with a chemical known as UDMH, which Alar breaks into when heated—that posed the highest cancer risk to kids.

This wasn't shocking news. As far back as the early 1970s, studies had raised concerns about the health impacts of Alar and UDMH. By the early 1980s, prominent health-research institutions had agreed that Alar and UDMH were "probable human carcinogens." Following an investigation of the chemical in 1984, the U.S. Environmental Protection Agency proposed a ban on Alar and UDMH, before backpedaling for seemingly political reasons. The agency did the same in January 1989, proposing a ban but failing to follow through.

Not everyone waffled like the EPA, though. By 1986, Gerber had stopped accepting Alar-treated apples for use in its baby food. Mott's did the same for its juice. And several major grocery chains started to refuse apples treated with Alar. By 1989, states like Maine and Massachusetts had banned the use of the chemical on apples that would end up in infant or baby food, and the American Academy of Pediatrics pushed for a nationwide ban.

Alar was only one of the chemicals that NRDC's "Intolerable Risk" study analyzed, but it gained the most notoriety in February 1989 when a CBS *60 Minutes* broadcast titled "A Is for Apple" zeroed in on its health hazards and the EPA's failure to protect the public. Following this segment, Alar became the inadvertent poster child for NRDC's report and the focus of a contentious debate that would eventually have nationwide impacts on pesticide use and the federal regulatory process.

Public reaction to the *60 Minutes* broadcast was swift, essentially resulting in an apple boycott. Schools around the country banned apples and apple products, and demand for pesticide-free and organic varieties skyrocketed. In an attempt to quell fears, the government took aim at NRDC, calling its report "gravely misleading" and attempting to debunk it with arguments that proved to be factually incorrect. Government credibility eroded quickly.

By spring, apple purchases nationwide had dropped by as much as 60 percent, according to some estimates, with growers reporting losses of \$100 million. In an effort to strike back against NRDC and the *60 Minutes* segment, the apple industry hired a PR agency to restore its public image. Misinformation soon turned to straight-up dishonesty, though, with subsequent ads making false claims that even the apple industry admitted were untrue.

In May 1989, amid significant public outrage and with all sides at a boiling point, the EPA issued a preliminary determination proposing a ban on food uses of Alar. Uniroyal, Alar's manufacturer—while still touting its safety—voluntarily pulled it from the U.S. market. In November, the EPA finally terminated the chemical's food uses. It was a public health win, though controversy surrounding Alar echoed on.

Apple sales remained low through most of 1989, even among apple varieties that weren't typically exposed to Alar. And as the public grew more discerning of the Alar threat, its view of apples that were regularly treated (like McIntosh and Red Delicious) was tarnished further.

In November 1990, Washington State apple growers—who produced the majority of Red Delicious apples at the time—filed a lawsuit against NRDC and CBS. Despite their best efforts, however, the growers couldn't prove that the facts in the *60 Minutes* broadcast were false, and their claims were dismissed. When the growers appealed, an appellate court countered by citing a lack of evidence that Alar was safe for children.

This was a landmark ruling—a victory for the First Amendment and the freedom of a nonprofit organization to research and report on matters of public health policy. It was a triumph for the public's right to know and the safety of future generations.

It also contributed to altering the federal regulatory system. At the same time that NRDC and CBS were in court, other researchers were coming to similar conclusions about pesticides and their detrimental impacts on children's health. In September 1992, the EPA issued its final report on Alar, concluding that "the dietary risk posed to the general population in 1989 was unreasonable." Less than a year later, in June 1993, the National Academy of Sciences issued a report titled "Pesticides in the Diets of Infants and Small Children," confirming the fundamental premise of NRDC's study: Children are more vulnerable to dietary pesticide exposures.

The accumulation of this groundbreaking research led to Congress's unanimous passage of the 1996 Food Quality Protection Act, which NRDC helped craft. This act fundamentally changed the way the EPA regulates agricultural chemicals by including stricter safety standards, especially for infants and children, and requiring a complete reassessment of all existing pesticide tolerances. Based on sound science, it was a major step in protecting America's children.

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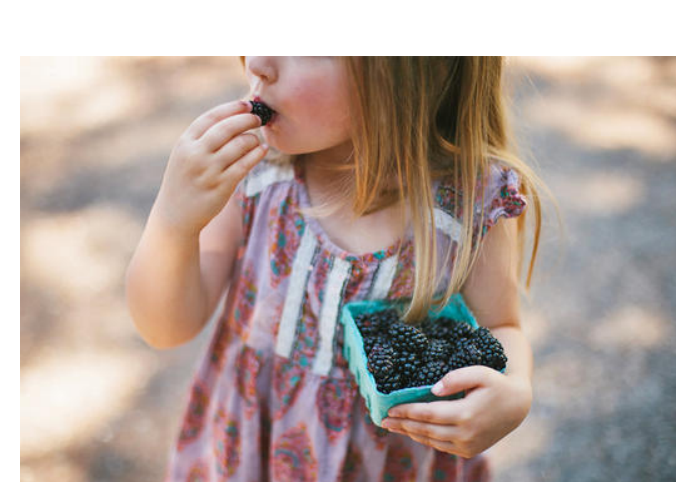
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