

# An Unhappy Anniversary: The Alar 'Scare' Ten Years Later

By Kenneth Smith, Jack Raso, M.S., R.D.

Posted: Monday, February 1, 1999

## Overview

Ten years ago, on February 26, 1989, an environmental health canard was made public, hyperbolically. The principal result was mass hysteria over Alar—a chemical product that was not otherwise noteworthy except for its usefulness to apple growers and apple consumers. This unfounded yet widespread public-health fright tops the list of such frights in the latter half of the twentieth century.

On the tenth anniversary of the onset of the "Great Apple Scare," the American Council on Science and Health (ACSH) recalls the events that led to nationwide hysteria. ACSH likewise recalls statements from responsible experts that have put the hysteria where it belongs: in the history book of baseless, but fearsome and well publicized, contentions about health and the environment. Regrettably, despite the scientific consensus that Alar residue on apples has never caused disease or death in humans, diehard, self-appointed environmentalist groups continue to claim that Alar was a bane to humanity.

## Introduction

In 1989, costuming oneself as an apple on Halloween would have befitted the times. That was the year in which something of a kangaroo court pronounced Alar, a powder used to prevent the pre-harvest rotting of apples, "the most potent cancer-causing agent in our food supply." It was the year in which the Natural Resources Defense Council, the TV newsmagazine 60 Minutes, then-talk-show host Phil Donahue, and film star Meryl Streep made "Alar" an almost dirty household word.

## Death from Overdose

Alar was developed in the 1960s as a means of slowing the growth of plants. Its active ingredient was daminozide, a manmade, hormonelike chemical. Alar's utility lay largely in its conduciveness to the maturation of red apples and cherries. It underwent two years of carcinogenicity testing on rats before the U.S. Food and Drug Administration (FDA) approved its commercial use in 1968. But in the 1970s Dr. Bela Toth, of the Eppley Institute for Research in Cancer, found:

- that, at several times the "maximum tolerated dose" (MTD) for males (i.e., in quantities that might render an intrinsically uninjurious substance harmful), a breakdown product of Alar—UDMH, or 1,1-(unsymmetrical) dimethylhydrazine—had caused tumors in the blood vessels, kidneys, livers, and lungs of mice; and
- that, at several times the MTD, Alar itself had been responsible for a high tumor incidence in mice.

In 1978 the National Cancer Institute (NCI) published the results of a carcinogen bioassay\*\* of daminozide and concluded that it was a weak carcinogen. But daminozide's carcinogenicity measurement was so trivial that the U.S. Environmental Protection Agency (EPA) could not use the NCI data for quantitative risk assessment. Alar's manufacturer, Uniroyal Chemical Company, Inc., sponsored several other carcinogen bioassays of daminozide, which were conducted according to EPA guidelines. No carcinogenicity was found.

Scientists on an EPA Science Advisory Panel in 1985 found the Toth studies faulty. Nevertheless, under pressure from the Natural Resources Defense Council (NRDC), an extremist environmentalist group, the EPA asked Uniroyal Chemical Company to conduct carcinogenicity tests on UDMH alone, without daminozide. To comply with the agency's instructions, the researchers gave UDMH to mice in amounts

four to eight times the MTD—that is, 133,000 to 266,000 times the highest estimate for a preschooler's daily intake of UDMH. This is analogous to drinking daily, for life, 19,000 quarts of juice made from Alar-treated apples. Eleven of the 52 mice that had been given UDMH daily at eight times the male MTD developed cancerous or noncancerous tumors. Eighty percent of the male mice died prematurely—not from cancer, but rather from amounts of UDMH that had rendered the chemical toxic. The EPA acknowledged that the use of such large quantities of UDMH made this study questionable; yet on February 1, 1989, the agency ordered a phaseout of Alar use that was to conclude by July 31, 1990.

### **The Damning of Daminozide**

Enter the media: In early 1989 the NRDC launched its Children's Environmental Health Initiative. David Fenton of Fenton Communications, a public relations firm engaged by the NRDC, negotiated an exclusive deal with the producers of 60 Minutes to break the findings of a 1989 NRDC report, compiled by two nondoctoral activists, that has not been printed as a part of any peer-reviewed journal: "Intolerable Risk: Pesticides in Our Children's Food." This collaboration spawned the 60 Minutes segment "'A' Is for Apple."

CBS-TV aired the program that featured the misbegotten segment on February 26, 1989. "'A' Is for Apple"—symbolized by an image of an apple with a superimposed skull and crossbones—began with correspondent Ed Bradley's assertion about daminozide (which he mistermied a pesticide): "The most potent cancer-causing agent in our food supply is a substance sprayed on apples to keep them on the trees longer and make them look better." No one challenged this assertion on the program. The segment even included footage of a pediatric cancer ward. "Go to a cancer ward at any children's hospital in this country," advised Rep. Gerry Sikorski. "See these bald, wasting-away kids."

In the days that followed the broadcast, the claims in the NRDC report were widely parroted in the media. Said Phil Donahue on his daytime talk show: "Don't look now, but we're poisoning our kids. I wouldn't lie to ya."

Mass hysteria ensued. At a parent's request, state troopers chased a school bus to confiscate a student's apple. School administrators had apples and apple products summarily destroyed. Apple markets rotted overnight.

The NRDC, however, prospered. Fenton, its media consultant, stated in an interview for Propaganda Review: "The [PR] campaign was designed so that revenue would flow back to NRDC from the public. The group sold a book about pesticides through a 900 number on the 'Donahue' show and to date 90,000 copies have been sold." Fenton's strategy succeeded to the tune of hundreds of thousands of dollars.

In response to unfavorable print reportage of Fenton's manipulations and to public criticism from food scientists, toxicologists, and ACSH, the producers of 60 Minutes decided to have Alar revisited in a new broadcast. The sequel aired on May 14, 1989, and included comments from distinguished experts who had criticized "'A' Is for Apple." But, adding insult to injury, Ed Bradley pointedly framed their comments as those of chemical-industry representatives.

That month the EPA's acting assistant administrator of Pesticides and Toxic Substances sent a letter to a Uniroyal vice president, in which he stated:

We disagree strongly with the recent reports appearing on television and in the newspapers and magazines concerning the analysis developed by the NRDC which created the impression that there is a massive and imminent public health problem as the result of pesticide residues in food and particularly from Alar residues in apples and apple products. This is simply untrue. We believe that the NRDC report presents a misleading picture of the risk of pesticides in the diet.

The next month, under pressure from apple growers—who were losing money regardless of whether they used Alar—Uniroyal Chemical Company ceased marketing Alar for use on foods. At that time, incidentally,

Alar was being used on only 15 percent of the apple trees in the U.S. When the dust settled, apple-orchard proprietors had lost about \$250 million; apple-product manufacturers, about \$125 million; and U.S. taxpayers (via the U.S. Department of Agriculture), \$15 million.

### **What Experts Have Said**

Many health authorities, including those quoted below, have publicly blasted the widespread Alar warnings of 1989 as false alarms.

- In 1989 the British government concluded that there "was no risk to health" from Alar or UDMH. The chair of the advisory group the British Parliament had appointed stated that its judgment differed from that of the EPA because "we tend to be a bit more cautious" about science. "We don't always make the assumption that the animal data are transferable to man," he explained.
- In the same year a United Nations panel that included seven members of the World Health Organization and seven members of the Food and Agriculture Organization concluded that Alar was "not oncogenic [tumor-inducing] in mice" and that special concern over UDMH was unwarranted.
- An editorial in the November 1, 1991, issue of the widely respected journal *Science* stated: "Confronted with the inadequacy of the data, a spokesman for the [NRDC] recently suggested that [the panic over Alar] was excusable because people are eating more apples than ever before. That is like an embezzler justifying embezzlement by saying the banking industry continues to survive."
- In February 1992 the American Medical Association issued a statement that read, in part: "The Alar scare of three years ago shows what can happen when science is taken out of context or the risks of a product are blown out of proportion. When used in the approved, regulated fashion, as it was, Alar does not pose a risk to the public's health."
- At a February 1992 ACSH press conference, C. Everett Koop, M.D., stated: "As a pediatric surgeon, as well as the nation's former Surgeon General, I care deeply about the health of children, and if Alar ever posed a health hazard, I would have said so then and would say so now. But the truth is that Alar never did pose a health hazard."
- At the same conference, environmental-health expert A. Alan Moghissi, Ph.D., then of the University of Maryland, stated: "The Alar controversy is a classic case of poor science applied to a societal decision, resulting in a poor final decision."
- Also at the conference, Dr. Richard Adamson, then director of the NCI's Division of Cancer Etiology, stated: "The risk of eating an apple treated with Alar is less than the risk of eating a peanut butter sandwich or a well-done hamburger." More recently, Adamson described the cancer risk from eating Alar-treated apples as "nonexistent."
- Ronald W. Estabrook, chair of the National Academy of Sciences' Committee on Comparative Toxicity of Naturally Occurring Carcinogens, has stated that the cancer risk from eating either well-done hamburgers or Alar-treated apples is "so low that I wouldn't lose any sleep." "And I wouldn't tell my grandchildren not to eat a well-done hamburger or an apple," he added.
- Robert Scheuplein, director of the FDA's Office of Toxicological Sciences, described as "total baloney" Ed Bradley's claim that Alar was the "most potent carcinogen in the human diet." Scheuplein has also stated that hundreds of carcinogens generated by cooking are more potent than Alar. Indeed, he has opined that it is not a carcinogen.
- Harvard physics professor Richard Wilson has stated that frequently eating Alar-treated apples was less risky than drinking chlorinated water with chloroform at the maximum EPA level.

### **"Baseless"**

The credibility of the environmentalists' mythology has very much faded. In the June 1993 issue of *ECO* magazine, reporter Keith Schneider stated: "[The] NRDC and 60 Minutes teamed up to cause a food scare by attacking Alar . . . as the single greatest cancer threat to children in the food supply. That conclusion has since been described as completely specious by university, federal and state health

experts across the country." In an article published in the September/October 1996 issue of the Columbia Journalism Review (CJR), Elliot Negin stated: "A recent database search of 'Alar' and 'scare' turned up more than 160 references from January 1995 through mid-July. . . . [O]f the roughly eighty articles, editorials, op-eds, and book reviews that commented directly on whether Alar actually posed a risk, all but a handful present the Alar affair as much ado about nothing." An editorial in the June 1, 1997, edition of The Washington Post described the Alar fuss as "one of several food scares that turned out to be baseless."

Jane Brody's column in the August 18, 1998, edition of The New York Times featured a list of "some of the most prominent [unwarranted] scares in recent decades." Ms. Brody described her review of these fearsome items, correctly, as "a cautionary tale that should help you realize why it is unwise to leap before you look. . . ." Alar was at the top of her list.

But in a \$23,800 ad in the August 31, 1998, edition of that paper, the National Environmental Trust, a coalition of environmental-advocacy organizations, took issue with Brody's description of Alar. And, in the CJR article cited above, Negin had called Alar, emphatically, "a potent carcinogen."

Extremist environmentalists would revive the Alar controversy. Indeed, they would have their mythology of Alar become a textbook success story of how the NRDC ridded America of a threat to children.

But the scientific consensus continues to be that Alar, used in the FDA-approved manner, was not dangerous to anyone, and that those who engineered the false alarms about the chemical did so for self-aggrandizement.

The foremost lesson of the "Great Apple Scare of 1989" is that skepticism pays.

**Kenneth Smith is an editorial writer for The Washington Times.**

**Jack Raso is ACSH's Director of Publications and editor-in-chief of its quarterly, Priorities for Health ([www.prioritiesforhealth.com](http://www.prioritiesforhealth.com)).**

-----  
\* This report is based largely on: (1) the Alar section (pp. 33-35) of the third edition of Facts Versus Fears: A Review of the Greatest Unfounded Health Scares of Recent Times (American Council on Science and Health, 1998); (2) "'A' Is for 'Asinine,': Alar and 60 Minutes" (Priorities, Vol. 9, No. 3, 1997, pp. 18-20); (3) and Alar Five Years Later: Science Triumphs Over Fear (American Council on Science and Health, 1994).

\*\* A bioassay is a test of a substance's activity in organisms (rodents, for example).

-----  
The authors thank Manfred Kroger, Ph.D., Professor of Food Science at The Pennsylvania State University, for participating in the development of this report.