

Rachel's Environment & Health News

#532 - How They Lie -- Part 5: The True Story of Alar -- Part 3

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Alar, the apple pesticide, has become a symbol of environmental protection gone wrong. In this series, we are examining the historical record to find the truth about the "Alar scare" of 1989, which is often cited today as a "hoax," an example of chemical hazards wildly exaggerated by environmentalists and by consumer protection extremists.

Last week we reported incorrectly that the International Agency for Research on Cancer (IARC) in Lyon, France, in 1982 declared UDMH a "PROBABLE human carcinogen." (UDMH is a contaminant in, and breakdown byproduct of, Alar.) In fact in 1974,[1] in 1982,[2] and again in 1987, [3] the IARC declared UDMH a "POSSIBLE human carcinogen." In 1974, the IARC made the flat statement, "1,1-Dimethylhydrazine (UDMH) is carcinogenic in mice after oral administration." (pg. 141). However in 1974 and again in 1982 and 1987, the IARC had no data --zero-- on the carcinogenicity of UDMH or Alar in humans. Many workers during those years were being exposed to UDMH and to Alar/UDMH but no one studied their health. Uniroyal claimed to have studied its workers and found no evidence of harm, but to this day the company has refused to release the data.[4]

In early 1987, the NEW YORK TIMES reported that, responding to a six-month-long campaign by Ralph Nader, six supermarket chains and nine food manufacturers were refusing to sell or process apples treated with daminozide, the generic name for Alar. The supermarkets were Safeway, A.&P., Giant, Kroger, Grand Union and Farmer Jack's. The manufacturers were Gerber, Heinz, Beech-Nut, Welch, Duffly-Mott, Seneca Foods, Vacu-Dry, Quaker Oats and Martinelli.[5]

However, in early 1988, the TIMES reported that an independent laboratory in Oakland, California had tested apples sold in Safeway stores and had found Alar present.[6]

In January, 1989, EPA received preliminary results from mouse studies Uniroyal to undertake in 1987, under pressure from EPA. EPA Acting Administrator John A. Moore announced February 1 that EPA had decided to speed up the process that would PROPOSE removing Alar from the nation's food supply. Making the announcement by press release February 1, 1989, EPA said Uniroyal's studies of Alar and UDMH were showing that UDMH clearly caused cancer in mice and Alar probably did. Mr. Moore said, "There is an inescapable and direct correlation between exposure to UDMH and the development of life-threatening tumors in mice." [7] Because Alar contains UDMH as a contaminant, and because Alar breaks down into UDMH when heated, or when metabolized in the human stomach, EPA had decided to propose banning Alar/UDMH.

Mr. Moore also said that, based on the Uniroyal studies, EPA had calculated the hazard of cancer among people exposed to UDMH in Alar for a lifetime; he said the hazard was 45 per million, which is 45 times as high as the one-in-a-million hazard EPA considers "negligible."

However, in making his February 1 announcement, Mr. Moore also announced that EPA was extending Uniroyal's license for Alar on apples for another 18 months, to June, 1990.

Therefore, as we enter February, 1989, when the "Alar scare" will officially begin, any member of the public following this story now knows that:

** Uniroyal claims to have data from studies of its workers showing that exposure to Alar is safe, but the company refuses to release any data to back up its claims. (Earlier, Uniroyal had released data showing that Alar did not cause birth defects, but it turned out that those data had been produced by Industrial Bio-Test [IBT] laboratories and were found to be invalid.[8] In late 1983, three IBT executives were jailed for conducting hundreds of fraudulent pesticide-and-health studies for several major corporations.[9])

** Several large supermarket chains had taken a pledge not to purchase apples treated with Alar, but some grocery stores had been caught cheating.

** EPA says Alar/UDMH will most likely cause cancer in 45 out of every million people exposed to it for a lifetime --a hazard 45 times as high as any the agency considers acceptable --yet in the same breath the agency has extended Alar's license for use on apples for at least another 18 months.

Against this unreassuring background, on February 26 and 27, 1989, the Natural Resources Defense Council (NRDC) and the CBS TV news show, 60 Minutes, released the findings of NRDC's two-year study, INTOLERABLE RISK: PESTICIDES IN OUR CHILDREN'S FOOD.[10] NRDC's study made three points:

(1) The cancer hazards to children from pesticides were much higher than government officials said they were because children have quite a different diet from adults (and are very likely more sensitive to carcinogens than adults are);

(2) Many pesticides are known to affect the central nervous system and children are more likely to suffer these effects than adults are;

(3) The government's process for getting hazardous pesticides out of the food supply is too cumbersome and slow to protect public health.

CBS News chose to highlight one aspect of the NRDC report: the cancer hazard to children from one pesticide: Alar on apples. CBS displayed a skull and cross bones on an apple and told its viewers that Alar was a dangerous carcinogen. In response, some school boards pulled apples from their school menus, and apple sales plummeted in February and didn't recover until May.[11]

The NRDC report was not just about Alar; it was not even mainly about Alar. By stressing Alar in the first few minutes of its 60 Minutes program, CBS News skewed coverage of the NRDC report to a point where people today think that NRDC wrote only about Alar. For example, the NRDC report made concluded that some 3 million U.S. children regularly eat combinations of brain-damaging pesticides at exposure levels greater than allowable EPA standards. This important aspect of the NRDC study disappeared from view in the flurry over Alar.

Because this is a history of Alar, we too will focus on that aspect of NRDC's report.

NRDC's report said that, among 22 million U.S. pre-school children, 4700 to 6000 would eventually get cancer from exposure to Alar/UDMH. This translates into about 250 cancers per million children. Naturally, if exposure continued, this cancer hazard would continue to develop at this rate into the future.

Two groups responded immediately and negatively to NRDC's assessment of the Alar hazard to children: the government (EPA, the Food and Drug Administration, and the U.S. Department of Agriculture), and Uniroyal and the apple growers. Extremist libertarian journalists and consultants to the chemical industry piled on later to create the enduring mythology of the "Alar scare."

The government was clearly stung by the NRDC report, and EPA acting chief John A. Moore counter-attacked quickly.[12] He made 4 points:

1. Mr. Moore said EPA's assessment of the Alar hazard was "severely at odds" with NRDC's assessment. He said NRDC's hazard estimates are "up to 100 times higher than EPA's estimates."

2. He went on to assure the public that EPA's risk assessment techniques are based on "highly conservative assumptions."

3. He said EPA's calculations "allow us to ensure that no particular group--such as infants and children--receives exposure that is likely to cause unreasonable risks."

4. NRDC's report was "gravely misleading" because it "relied on data that had been rejected in scientific peer review, along with food consumption data of unproven validity."

It turns out that none of these points is valid. Here is new information relevant to Mr. Moore's 4 points in reverse order:

4. In its risk assessments of Alar, EPA relied on food consumption data gathered by USDA in 1977. NRDC used food consumption data gathered by USDA in 1985. The more current data was based on a smaller sample, but was still the best estimate of food consumption by Americans available in 1989. The more recent data, which NRDC used, showed that daily fruit consumption by pre-schoolers had increased 30% since 1977. The 1985 data were more suitable for Alar risk assessments than the 1977 data. [13]

3. In 1989, EPA was not taking any specific steps to assure that infants and children were protected from pesticides --a point the National Academy of Sciences made again and again in a book-length study published in 1993.[14] In 1989, EPA risk estimates treated children as if they were adults even though Mr. Moore himself said, "EPA is also concerned about the possibility that children and infants may be more sensitive to toxic effects of pesticide residues in their diets than are adults." [12] EPA may have been concerned, but it did not act on that concern.

2. EPA's risk assessment techniques are not necessarily conservative. In December, 1988, a U.S. government statistician examined a database of 1212 laboratory animal experiments on 308 chemicals and concluded that EPA's cancer risk assessment technique "is not conservative when applied in the usual way to animal data." [15]

1. EPA on February 1, 1989, calculated the hazard of Alar to adults to be 45 in a million. NRDC estimated the hazard to children to be 250 in a million. NRDC's estimate was not anywhere near 100 times greater than EPA's. As risk assessments go, their estimates were remarkably similar.

NRDC did use an EPA cancer potency number which the Science Advisory Panel (SAP) had said shouldn't be relied upon. (See REHW #530, #531.) However, EPA's own Cancer Assessment Group in 1987 had developed the potency number, a year AFTER the SAP had said it shouldn't be done. If it was good enough for EPA, why shouldn't it be good enough for NRDC? That cancer potency factor was the best data available at the time NRDC used it and, as we shall see when we continue this series, new data from Uniroyal's own studies reveal that NRDC wasn't far off the mark. However the Libertarian science-fiction attacks on NRDC and on EPA were soon to begin in earnest.

--Peter Montague (National Writers Union, UAW Local 1981/AFL-CIO)

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[1] IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK OF CHEMICALS TO MAN: SOME AROMATIC AMINES, HYDRAZINE AND RELATED SUBSTANCES, N-NITROSO COMPOUNDS AND MISCELLANEOUS ALKYLATING AGENTS VOLUME 4 (Lyon, France: International Agency for Research on Cancer, 1974), pg. 137.

[2] IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK TO HUMANS: CHEMICALS,

INDUSTRIAL PROCESSES AND INDUSTRIES ASSOCIATED WITH CANCER IN HUMANS, IARC MONOGRAPHS, VOLUMES 1 TO 29, SUPPLEMENT 4 (Lyon, France: International Agency for Research on Cancer, 1982), pg. 268 in Appendix 2.

[3] IARC MONOGRAPHS ON THE EVALUATIONS OF CARCINOGENIC RISKS TO HUMANS: OVERALL EVALUATION OF CARCINOGENICITY: AN UPDATING OF IARC MONOGRAPHS VOLUMES 1 TO 42, SUPPLEMENT 7 (Lyon, France: International Agency for Research on Cancer, 1987), pg. 62.

[4] Beth Rosenberg, "The Story of the Alar Ban: Politics and Unforeseen Consequences," NEW SOLUTIONS Vol. 6, No. 2 (Winter 1996), pgs. 34-50. Subscriptions to the quarterly NEW SOLUTIONS, are \$40/year from: P.O. Box 281200, Lakewood, Colorado 80228-8200; phone (303) 987-2229.

[5] Florence Fabricant, "Food Notes," NEW YORK TIMES January 7, 1987, pg. C7.

[6] Keith Schneider, "Supermarket Chain Accused of Breaking Vow on Pesticide," NEW YORK TIMES February 3, 1988, pg. B6.

[7] Al Heier, "EPA Accelerates Process to Cancel Daminozide [Alar] Uses on Apples; Extends Tolerance," EPA ENVIRONMENTAL NEWS [press release] February 1, 1989. Heier can be reached at (202) 260-4374.

[8] Food and Agriculture Organization of the United Nations, PESTICIDE RESIDUES IN FOOD--1983 [FAO PLANT PRODUCTION AND PROTECTION PAPER 61] (Geneva, Switzerland: Food and Agriculture Organization of the United Nations, 1984), pg. 176, says, "The teratogenicity study [of Alar] reviewed by the Meeting was conducted by Industrial Bio-Test Laboratories (IBT) and had been found invalid."

[9] "Three Who Falsified Product-Safety Tests Get Prison Sentences," WALL STREET JOURNAL April 10, 1984, pg. unknown.

[10] Bradford H. Sewell, Robin M. Whyatt and others, INTOLERABLE RISK: PESTICIDES IN OUR CHILDREN'S FOOD (New York: Natural Resources Defense Council, 1989). This report is out of print and no longer available from NRDC.

[11] Paul Roberts, "The Big Red Machine: Washington's battle-scarred billion-dollar apple industry has proved there is life after Alar," SEATTLE WEEKLY February 23, 1994, pgs. 16-23.

[12] John A. Moore, "Speaking of Data: The Alar Controversy," EPA JOURNAL Vol. 15, No. 3 (May/June, 1989), pgs. 5-9.

[13] Leslie Roberts, "Pesticides and Kids," SCIENCE Vol. 243 No. 4896 (March 10, 1989), pgs. 1280-1281.

[14] Philip J. Landrigan and others, PESTICIDES IN THE DIETS OF INFANTS AND CHILDREN (Washington, D.C.: National Academy Press, 1993).

[15] John C. Bailar III and others, "One-hit models of carcinogenesis: Conservative or not?" RISK ANALYSIS Vol. 8, No. 4 (1988), pgs. 485-497. And see Leslie Roberts, "Is risk assessment conservative?" SCIENCE Vol. 243, No. 4898 (March 24, 1989), pg. 1553.

Descriptor terms: alar; pesticides; apples; nrdc; natural resources defense council; epa; bans; regulation; daminozide; udmh; carcinogens; cancer; uniroyal; iarc; carcinogen assessment group;

cag; intolerable risk: pesticides in our children's food; ralph nader;
cbs tv; 60 minutes; fda; usda; frank young; testing methods; pam ii;
conditt; john rice; international apple institute; b-nine;