The food industry went ballistic last month when Food & Water, Inc., a grass-roots advocacy group in Walden, Vermont, and Environmental Research Foundation in Annapolis, Maryland, published an ad in SUPERMARKET NEWS comparing pesticide deaths to deaths by assault rifles, concluding that, "More people are killed by their salad." (See REHW #480.)

For the past five years, the food industry --especially the produce industry (fruits and vegetables) --has been developing a campaign called "5-a-Day." They want everyone to eat five helpings of fruits and vegetables each day. This is a multi-million-dollar food-industry campaign, directed by the Produce for Better Health Foundation. Because we read food industry publications like PRODUCE NEWS, SUPERMARKET NEWS and THE PACKER, we know that the food corporations are banking on this campaign to provide greatly increased profits for agrichemical food growers.

That's why they went nuts when Food & Water struck their Achilles heel, which is the fact that most of the fruits and vegetables in supermarkets today contain pesticide residues that can cause disease. This a dirty little secret that the food industry doesn't want anyone talking about.

In fact, agribusiness corporations are so eager to close off discussion of toxic pesticide residues on food that the industry has been campaigning state by state in recent years to pass "food disparagement" laws making it a crime to criticize agricultural products without "a sound scientific basis." Such "banana laws" (as they are called) are now on the books in eleven states (Alabama, Arizona, Colorado, Florida, Georgia, Idaho, Louisiana, Mississippi, Oklahoma, South Dakota, and Texas) and they are under consideration in California, Delaware, Illinois, Iowa, Minnesota, Ohio, Oregon, Pennsylvania, South Carolina, and Washington state.[1] Further, the food industry is trying to stick a "food disparagement" provision into the 1996 Farm Bill,[2] which is still being bitterly debated in Congress as we go to press.[3] It seems clear that these banana laws will be declared unconstitutional when they are challenged in court, but it will be a long, expensive fight--probably costing upwards of half a million dollars to litigate. As a result, such laws will very likely have a chilling effect on journalists and others who might be inclined to discuss the possibility that pesticide-laced foods aren't as healthy for you as fruits and vegetables that are free of poisonous residues.

Proponents of banana laws openly admit that their purpose is to silence food-safety activists.[4] In Florida, anyone found guilty of "agricultural disparagement" must pay a fine equal to three times the estimated dollar amount of damage done to agribusiness plaintiffs. The Georgia statute defines disparagement as "the willful or malicious dissemination to the public in any manner of false information that a perishable food product or commodity is not safe for human consumption," and defines false information as "not based on reasonable and reliable scientific inquiry, facts, or data." It's anybody's guess what "reasonable" and "reliable" mean. We can recall a time not long ago when "reasonable" and "reliable" data showed that diethyldithiobenzol (DES) and DDT were both "safe" for humans and the environment. Unfortunately those reasonable and reliable data were quite wrong.[5]

The food industry flatly denies that anyone has ever been harmed by the roughly 600 million pounds of toxic chemicals that have been intentionally sprayed on the nation's food and fiber crops each year for the past 50 years. Bob Carey, president of the Produce Marketing Association in Newark, Delaware, told SUPERMARKET NEWS that he was "dismayed and appalled" by the Food & Water advertisement which said thousands of Americans are killed each year by pesticide residues.[6] "No one... has ever been harmed by eating fresh produce properly treated with crop protection tools," Carey told the NEWS. He told the Packer, "Produce on store shelves and on restaurant plates is safe."[7] Tom Stenzel, president of the United Fresh Fruit and Vegetable Association called the statements in the ad "pure fabrication."[7] David Moore, president of the Western Growers Association said that comparing the hazards of fresh produce to assault rifles was "tantamount to yelling 'fire' in a crowded theater." Falsey yelling "fire" in a crowded theater has been used by the U.S. Supreme Court as a legal test for determining when society has the right to limit a person's Constitutional right of free speech.

But suppose it is true that pesticides kill more people than assault rifles do each year. Then Mr. Carey, Mr. Stenzel, Mr. Moore are making false statements that would tend to harm people by inducing them to consume toxic chemicals. (We agree that organic, pesticide-free fruits and vegetables are excellent for health. However, putting poison on your salad just doesn't make sense to us.)

So who's right? Unfortunately, good data are scarce. The only book-length study of pesticide hazards was published by the National Academy of Sciences (NAS) in 1987. The NAS reported in 1987 that they could find "very limited actual data"[8,pg.59] regarding pesticide residues on food. David Pimental at Cornell University pointed out in 1993 that "U.S. analytical methods now employed detect only about one-third of the more than 600 pesticides in use."[9,pg.49] So estimates must be substituted for real data. Fifty years into pesticide technology, this lack of data is shocking and pathetic. (Ask yourself, who benefits from the absence of such data?)

The NAS study restricted itself to pesticides in and on food. It omitted pesticide exposures that occur as a result of drinking pesticide-contaminated ground water,[8,pg.45] a phenomenon that is very common in parts of the U.S.

Pesticides come in 3 flavors: herbicides, insecticides, and fungicides.

According to the NAS, about 480 million pounds of herbicides are used annually in the U.S.; of these, 300 million pounds (62.5%) are agents that "the EPA [U.S. Environmental Protection Agency] presumes to be oncogenic or for which positive oncogenicity data are currently under review by the agency."[8,pg.46] Oncogenic means tumor-producing. The NAS estimate omitted two large-volume herbicides, atrazine and 2,4-D, because EPA received data indicating oncogenicity of these chemicals after the NAS study was completed.[8,pg.47]

Quantities of oncogenic insecticides are not described in detail in the NAS study. Insecticides are described in terms of acre treatments; one acre-treatment is defined as one acre to which one pesticide has been applied one time. NAS says that presumed oncogens make up between 35% and 50% of all insecticidal acre-treatments.[8,pgs.47-48]

About 90% of all fungicides show positive results in oncogenicity tests. These oncogenic fungicides represent from 70 million to 75 million of the 80 million pounds of all fungicides applied annually in the U.S.[8,pg.48]

The NAS committee worked with a 1985 list of 53 pesticides that EPA considered oncogenic.[8,pg.50] However, an estimate of oncogenic potency was only available for 28 of the 53, or 53%.[8,pg.51] In other words, NAS found that it could not estimate the risks for 47% --roughly half --of the pesticides that EPA identified as oncogenic because necessary data on oncogenic potency were not available. The NAS therefore restricted its analysis to the 28 pesticides for which data existed. NAS used EPA's data and EPA's risk assessment methods. [8,pg.46]

NAS says that, in doing risk assessments, EPA "tries to make necessary assumptions in a way that minimizes the chance of underestimating risks."[8,pg.50] "The result is that these [NAS] risk assessments probably overstate true oncogenic risk," NAS said.[8,pg.50] Risk refers to incidence of cancer cases, not
The NAS said there are 4 reasons why its risk estimates may overstate the risk, and four reasons why its estimates may understate the risk.

Reasons why NAS estimates may overstate the risk:

** In extrapolating from high-dose tumor incidence data to low-dose estimates, conservative assumptions have been made;
** NAS assumed that all acres of all crops are treated with the pesticides which are registered for use on those crops;
** NAS assumed that residues are always present at the legally allowable level, when in fact they are usually present at lower levels;
** NAS assumes that daily exposure occurs during a 70-year lifetime.

Reasons why NAS may have understated the risk:

** NAS lacked toxicological data for some active ingredients and for most "inert" ingredients, degradation products, and metabolites. [So-called "inerts" make up the bulk of most pesticides and are closely-held secrets. Some "inerts" are toxic in their own right; see REHW #469. Likewise, metabolites and degradation by-products can be more poisonous than the parent compound; for example, DDE is more toxic than its parent, DDT.]
** The models used for extrapolating from animal data to humans may have been insufficiently conservative in some respects.
** Certain routes of exposure were omitted.
** Possible synergistic (multiplier) effects of pesticides and metabolites were omitted from consideration.

NAS estimated that the total risk from the 28 pesticides was 5.85 cancers per thousand people per lifetime. Dividing this by 70 (years in a lifetime) and multiplying it by the number of groups of 1000 in the U.S. population (250,000 such groups) yields an annual estimated pesticide-caused cancer incidence of 20,800 in the U.S. If half of the new pesticide-caused cancers each year result in death, this brings NAS's estimate of annual deaths from pesticides-in-food to 10,400 per year.

--Peter Montague

[3] PMA ISSUE UPDATES February 2, 1996; available as document #414 from the Produce Marketing Association's (PMA) fax-back service; phone (302) 738-2981 in Newark, Delaware.
[10] This is a reasonable estimate; each year about a million new cases of cancer are reported in the U.S., and about 500,000 cancer deaths occur. See Lynn A. Gloeckler Ries and others, CANCER STATISTICS REVIEW 1973-1988 [National Institutes of Health Publication No. 91-2789] (Bethesda, MD: National Cancer Institute, 1991).

Descriptor terms: pesticides; advertising; produce; fruits; vegetables; carcinogens; cancer estimates; national academy of sciences; produce for better health foundation; food & water; banana laws; first amendment; produce marketing association; united fresh fruit and vegetable association; western growers association; david pimentel; mortality statistics; food disparagement laws;