As chemical contamination of the natural environment continues to spread,[1] and public concern continues to grow,[2] a major effort has developed to try to convince the American people that industrial poisons in our food and water are safe. Mainstream scientific organizations like the American Association for the Advancement of Science have been recruited and are on board. The NEW YORK TIMES is on board. (See RHWN #330, #331, #332.) In an editorial February 26, 1993, SCIENCE magazine said, "Synthetic pesticides in marketed foods constitute no appreciable threat to human health." (They did not define "appreciable.") SCIENCE went on to say that strict enforcement of the Delaney clause (see RHWN #324, #326), to force removal of 70 suspected or known carcinogens from the American food supply, would have "negligible" benefits.[3] Recently the NEW YORK TIMES, editorialized (in its news columns) that many unnamed "experts" are asking whether the nation is "wasting billions of dollars regulating substances that might pose little risk." And: "Many experts... question the wisdom of spending billions of dollars to protect people from traces of toxic compounds."

Such media campaigns do have an effect. People are worried about intimate contact with industrial poisons for obvious reasons (common-sense says you should keep them out of your food, if you can). Many people therefore find it reassuring to have established and usually-reliable sources of information telling them all is well, don't worry. It is evident that people are hungry for reassurance, even if it is not substantiated by any facts. Dozens of newspapers have reprinted the TIMES'S recent unsupported claims that low levels of chemicals harm no one. (One reader called from California to tell us that the TIMES'S series was handed out at a Regional Water Control Board meeting about leaking underground tanks. "The government is now using the NEW YORK TIMES to try to convince us we're overreacting to all instances of chemical contamination," said Anna Marie Stenberg.)

Propaganda campaigns like this one serve to reassure people that industrial poisons are our friends, that it's OK to let poisons into our homes and have intimate contact with them. Such campaigns clearly work. Unsuspecting Americans brought 189 million pounds of pesticides into their homes in 1988, and spread them into and onto their closets, cabinets, floors and pets, then eventually into and onto their rugs, carpets, furniture, linens, towels, air, food, and children.

Until very recently, surprisingly little has been known about actual patterns of use of pesticides in homes. A pioneering 1992 study of 238 Missouri families revealed eye-opening new information about the way people use pesticides.[4] Of the 238 families studied, 98 percent used pesticides in home or garden at least once a year and 64 percent (two-thirds) used pesticides more than five times a year. Eighty percent of families used pesticides inside their homes at least once a year. Fifty-seven percent of families used herbicides to control weeds. Half of all families used insecticides to control fleas and ticks on pets. Flea collars were the most popular single pesticidal product (half the families used them). Carbaryl and Sevin were also popular, with 28.2 percent of families using them. Diazinon was another favorite with 8.4 percent using it. No-pest strips (dichlorvos) and Kwell shampoo (lindane) were used by 10 percent.

The study examined pesticide use in relation to the age of children in the home. (The families were selected partly because they had children under 10 years old, so these families are not representative of the general public.)

During pregnancy, 46.6 percent of families used pesticides at least once, and 34.0 percent used them more than 5 times. Use of pesticides by the mother herself during pregnancy was more limited: 28.9 percent of pregnant women used pesticides at least once and 12.5 percent used pesticides more than 5 times. These numbers represent a substantial decrease of pesticide use during pregnancy, compared to other times; this probably reflects awareness that humans are particularly sensitive to toxins before birth.

When the home had a baby aged 6 months or less, pesticide use dropped somewhat more, compared to the period of pregnancy. Only 10.2 percent of families used pesticides on the garden when the baby was less than 6 months old (as opposed to 18.1 percent who put pesticides on the garden while the mother was pregnant). Likewise, yard use of herbicides dropped from 28.2 percent of families during pregnancy to 23.7 percent of families after the baby arrived. Authors of the study believe this reflects parental awareness that infants are especially sensitive to toxins.

Spray cans and spray liquids are the most popular forms of pesticides. After the child reaches 7 months of age (or older), 50 percent of families apply pesticides by this method. Dusts, "bombs," and no-pest strips were used by 5 percent to 15 percent of families.

Use of flea collars remained constant regardless of pregnancy or age of the child. "This was in contrast to all other product types that showed substantially less use during pregnancy and birth to six months of age," the study's authors said. Evidently most people do suspect the possibility of pesticidal effects on their young children but they do not seem to recognize that flea collars cover their pets with low levels of poison.

* * *

A 1993 study of brain cancer in Missouri children shows statistically significant associations between childhood brain cancer and several types of pesticide use in the home, including no-pest strips, flea and tick collars on pets, and chemicals for controlling nuisance pests (roaches, ants, spiders, mosquitoes), termites, lice, garden and orchard pests, yard weeds and pet pests (ticks and fleas).[5] The case-control study examined 45 Missouri children with brain cancer, plus two control groups (85 healthy friends of the cancer-stricken children, and 108 children with other types of cancers besides brain cancer).

Cancer is the second leading cause of death in children under 14 and brain tumors are the second most frequent type of cancer, accounting for approximately 20 percent of all cancers in children. The survival rate of children with brain cancer has not improved in recent years (35 percent survive five years or longer).[6]

According to data compiled by the National Cancer Institute, during the past 15 years there has been a "dramatic rise" in brain cancers among two age-groups in the U.S.: old people and children. Brain cancer in children aged 0-4 is rising at a steady 2.6 percent each year (thus doubling in incidence every 27 years, or doubling each generation).[7] Between 1973 and 1988, brain cancer in children under 14 increased 47% (from 2.3 per 100,000 to 3.4 per 100,000).[8]

Families of the children with brain cancer seemed like ordinary people. Fifteen percent had only a high school education; another 40 percent had high school plus additional training; 24 percent had graduated from college. Thirty-eight percent had a family income between $20,001 and $30,000; 16 percent had family incomes between $30,001 and $40,000; 16 percent had family incomes above $40,001.

In making the comparisons between the brain cancer cases and the controls, researchers took into account the child's exposure to environmental tobacco smoke, family income, family members working in construction trades (among adults, brain cancer is associated with exposure to many industrial chemicals, especially paint—see RHWN #266), father's education and mother's education, among other things.
What chiefly distinguishes the "case" families from the "control" families is that the "case" families used chemical pesticides in their homes more often than did families whose children have not developed brain tumors.

In all, the study found 15 separate statistically significant associations between one type or another of pesticide use and childhood brain cancer. Types of pesticide use are such things as "use of no-pest strips for nuisance pests" and "Diazinon used in the garden or orchard."

This study has several limitations. The number of cases is small; many associations were tested, so a few of the 15 positive associations may be due to random chance. The study may suffer from "recall bias" because the data were supplied by mothers whose recall may have been biased by their emotional reaction to their child's experience.

The authors say, "Although our findings are not conclusive, they are suggestive of an association between childhood brain cancer and several pesticide use situations, product types, and specific products. The results of this study highlight the need for expanded research on the health effects of pesticides." And, it seems to us, the need for some common-sense steps like PREVENTION.

--Peter Montague


Descriptor terms: pesticides; journalism; propaganda; new york times; science magazine; aaas; mo; pesticide use data; insecticides; herbicides; pets; flea collars; carbaryl; diazinon; dichlorvos; kwell shampoo; lindane; brain cancer; childhood cancer; mortality statistics; morbidity statistics; no pest strips;