

## Sulfites: No harm added?

They are tossed in with fruit salads and dissolved into bottled drinks. Used in many restaurants, sulfiting agents keep fresh fruits and vegetables from discoloring. But they can cause faintness, shortness of breath and other allergic reactions in 5 to 10 percent of the 10 million asthmatics in the United States. Sulfites have also been implicated in the deaths of four asthmatics over the last several years.

So says a recent tentative report sponsored by the Food and Drug Administration and pending the agency's final approval. However, the report concludes, there is not enough evidence to prove that sulfites are harmful to the public and they need not be banned. Instead, the authors recommend that food containing sulfites be identified in restaurants and on packages.

Michael F. Jacobson, director of the Center for Science in the Public Interest in Washington, D.C., calls the report "a waste of time." The consumer group called for a sulfite ban in 1982, basing its stand on much of the same information cited in the report (SN: 11/6/82, p. 294). Sulfites are generally unnecessary, says Jacobson, and by not recommending a ban, the report "is writing a death sentence" for sulfite-sensitive people.

## Dioxin deposits far from the source

Isle Royale, Mich., is a pristine 40-mile swatch of land in northern Lake Superior, a haven for wolves, moose, loons and occasional canoeists. Since 1940 it has been a roadless National Park where all motorized vehicles are prohibited. Yet three researchers from Indiana University in Bloomington found trace amounts of chlorinated toxic chemicals—dioxins and furans—in sediments taken from a lake on the island. The finding, reported in the Nov. 2 *SCIENCE*, gives weight to the belief that such contaminants can circulate widely through the atmosphere and deposit themselves far from their combustion sources.

Ronald A. Hites, Jean M. Czuczwa and Bruce D. McVeety sliced up core samples of lake sediment and extracted and measured the amounts of the dioxins and furans in each sediment fraction.

Their analysis showed 13 dioxins and furans in proportions similar to those found in air samples taken from Washington, D.C., and St. Louis. In both air and sediment, octachloro-dioxin was the most abundant. And since there is no possible contaminating drainage into the lake, they note, the dioxin contamination must be the result of air pollution from faraway incinerators that burn municipal and chemical waste. "Because it is a remote location it is getting material deliveries from the atmosphere which come from many sources," says Hites.

The researchers also found vanishing amounts of the compounds in sediment layers (below 8 centimeters) deposited before World War II. And this, says Hites, refutes Dow Chemical Corp.'s implication that dioxins have always existed and their seeming increase is due only to improved detection methods. Dow chemist Warren Crummett says the measurements might not support the company's hypothesis, but there are other studies that do and one set of data won't disprove it.

The minute amounts of the Isle Royale dioxins—38 parts per trillion of tetrachloro-dioxin—hardly compare to the 300 parts per billion that closed down Times Beach, Mo., but it's not likely they'll go away. "Once dioxins are deposited in the soil and sediment," says Hites, "they are stable."

## Airing a global problem

Citing such problems as smog and acid rain, a National Academy of Sciences panel has announced plans for a major international study of the chemistry of the troposphere, the atmospheric layer closest to the earth. The estimated 20-year program is needed to understand climatic and chemical cycles for better environmental management, the panel says.

## The power of less medication . . .

Schizophrenia is a perplexing set of psychotic disorders that can cripple social functioning and the ability to take care of oneself. Researchers in New York City now report that an antipsychotic medication that dampens the symptoms of many long-term schizophrenics can, in many cases, be most effective at doses that are one-tenth of those usually prescribed. Lower doses decrease the chance that patients will develop movement disorders such as tardive dyskinesia, they note.

Preliminary findings released at a recent meeting of psychiatric researchers in Baltimore indicate that a low dose of injected fluphenazine causes few side effects and suppresses symptoms in at least half of the chronic schizophrenics under study. Over the course of a year, the virtual absence of side effects among patients who respond to a low dose appears to make it easier for their families to accept them back into the fold, say psychiatrists at the New York State Psychiatric Institute, the Long Island Jewish-Hillside Medical Center and Mt. Sinai Hospital.

The study involves 137 schizophrenic patients in their 20s and 30s who were discharged to their families by the three hospitals. A standard dose of fluphenazine that lasts for two weeks was determined for each patient. Random assignments to standard or low-dose treatment were then made. Psychiatrists who were unaware of treatment levels assessed schizophrenic symptoms among the patients once a month. Patients and their families—usually both parents—periodically completed questionnaires on the patients' social adjustment and the families' rejection or acceptance of them.

Only 9 percent of patients on a standard dose had a serious recurrence of symptoms that resulted in another hospitalization; 45 percent of those on a low dose got significantly worse. But the condition of the remaining 55 percent of low-dose patients improved greatly and their families reported the best social adjustment and most satisfaction.

"These patients were in terrific shape compared to those who responded to a standard dose," says Delores Kreisman of the New York State Psychiatric Institute. Successful low-dose patients showed the most independence, competence in taking care of themselves and romantic involvement with a boyfriend or girlfriend. It is too early to be certain that low doses result in fewer cases of tardive dyskinesia in these patients.

The researchers plan to explore ways of identifying patients who are most likely to benefit from low drug doses.

## . . . to ease symptoms and side effects

The benefits of low doses of fluphenazine are also being heralded by investigators at the Veterans Administration Medical Center in Los Angeles. Stephen R. Marder and colleagues report in the November *ARCHIVES OF GENERAL PSYCHIATRY* that a "substantial proportion" of schizophrenic patients do just as well with as little as one-fifth of a conventional dose.

Using methods similar to those employed by the New York scientists (above), the researchers followed 50 male schizophrenic patients for one year. Each man received a drug injection every two weeks. Those given the lower dose, which was more than that given to their counterparts in New York, had the same rehospitalization rate as men on the higher dose—about 20 percent. But patients receiving conventional doses reported more anxiety, drowsiness and restlessness; five of them dropped out of the study, compared with two low-dose dropouts.

Larger studies are needed, say the investigators, but they conclude that the findings apply to most male schizophrenics who have been successfully treated with fluphenazine at outpatient clinics. In the many cases that respond equally well to low doses, they note, "patients may experience less drug-induced discomfort and as a result may show better compliance with drug treatment."