

ian organizations, such as Catholic Religious Services and the Lutheran World Council.

We are encouraged by the letters on human rights concerns published in *Science*. It is satisfying to know that readers pay serious attention to these activities along with the more traditional research studies published in the journal. Further comments or inquiries about the human rights work of the AAAS are welcome and should be addressed to Eric Stover at the AAAS address or to me.

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References and Notes

1. J. Ziman, *Scholarly Freedom and Human Rights* (Rose, London, 1976).
2. R. W. Kates, *Science* **201**, 502 (1978).
3. E. Stover and T. Eisner, *BioScience* **32**, 871 (1982).
4. "Report of a medical fact-finding mission to El Salvador, 11-15 January 1983" (AAAS, Institute of Medicine, International League for Human Rights, National Academy of Sciences, New York Academy of Sciences, Washington, D.C., 1983); see also A. Gellhorn, *New Engl J. Med.* **308**, 1043 (1983).

Corn Mold Controversy

After reading Eliot Marshall's article "Yellow rain experts battle over corn mold" (News and Comment, 5 Aug., p. 526), I feel compelled to make my own comments.

I see no purpose in derogatory remarks such as "Minnesota mafia." These comments tend to make the issue more controversial than necessary. When one establishes the etiology of a "mycotoxicosis," one obtains the appropriate relevant sample, demonstrates a mycotoxin in it in sufficient concentration to cause problems in animals, and isolates the toxin-producing fungus. This is often very difficult, and strict requirements are not often fulfilled, which leads to inferences as well as speculation. Another fact that is not peculiar to this area of research, one of which most plant pathologists are acutely aware, is that, as E. C. Stakman said many years ago, "Fungi are a mutable and treacherous tribe." We, as plant pathologists and mycotoxicologists, can only make conclusions about the capabilities of a species from the isolates that we have worked with. The more isolates we have, the more diverse the sources, and the more care we have used in their isolation and preservation, the more likely is our generalization to be true. But proving negative statements such as, no isolates

of a species has x toxin-producing capabilities, is a time-consuming and often endless and nonrewarding activity.

We should await the research needed to clarify the role of *Fusarium moniliforme* and avoid innuendos.

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Automobiles and Acid Rain

In his editorial "Acid rain" (8 July, p. 115), Philip H. Abelson writes that "everyone who drives an automobile is a contributor to acid rain." Examination of emissions data indicates that controlling automobile emissions will contribute little to solving acid precipitation problems.

Of the strong acid anions associated with precipitation acidity, sulfate accounts for about 60 percent and nitrate for about 40 percent, on an equivalence basis. The contribution to national SO_2 emissions by all forms of transportation is about 3 percent (Table 1). The corresponding value for national NO_x emissions is about 44 percent. If ground-level emissions from highway vehicles contribute to long-range transport of atmospheric pollutants and to precipitation acidity on an equal basis with other sources, for example, power plant

Table 1. National SO_2 and NO_x emissions for 1980 (10^6 tonnes per year) (2).

Source	SO_2	NO_x
Electric utilities	15.8	5.6
Industrial boilers	2.4	3.5
Nonferrous smelters	1.4	
Residential/commercial	0.8	0.7
Other industrial processes	2.9	0.7
Transportation	0.8	8.5
Miscellaneous		0.3
Total	24.1	19.3

Table 2. Transportation sector and highway vehicle contributions (percent) to precipitation acidity, on the basis of data in table 1 and the assumption that highway vehicles contribute 50 percent of the transportation sector's SO_2 and 75 percent of its NO_x emissions (3).

Source ^c	H_2SO_4^* (%)	$\text{HNO}_3^\dagger$ (%)	Total (%)
Transportation sector	2	18	20
Highway vehicles	1	13	14

*Values calculated as 3.3 and 1.6 percent of 60 percent, respectively. [†]Values calculated as 44 and 33 percent of 40 percent, respectively.

smokestacks, then the respective contributions to precipitation acidity can be approximated (Table 2). The atmospheric chemistry of NO_x and its interaction with SO_2 is poorly known. However, it is likely that automobiles account for less than 14 percent of total equivalents of strong acid anions in either wet or dry deposition in the eastern United States. The implication of these data for regulatory policies aimed at controlling acid precipitation (or "acid rain") by reducing SO_2 and NO_x emissions is obvious.

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References

1. Work Group 3-B, *Emissions Costs and Engineering Assessment* (United States-Canada Memorandum of Intent on Transboundary Air Pollution, Department of State, Washington, D.C., 1982), tables A.2.1 and A.2.2.
2. *National Air Pollutant Emission Estimates 1970-1979* (EPA-450/4-81-010. Environmental Protection Agency, Washington, D.C., 1981), tables 2 and 3.

Meningomyelocele

Gina Kolata (News and Comment, 29 July, p. 441), in a statement about the potential of children with meningomyelocele, writes, "Most are also mentally retarded." The American Society for Pediatric Neurosurgery, the Pediatric Section of the American Association of Neurological Surgeons, and the Spina Bifida Association of America are attempting to increase recognition among physicians and the lay public of the fact that most children with meningomyelocele are not mentally retarded.

The mental retardation seen in the past was often associated with unrecognized shunt malfunction, improperly treated shunt infection, and the effects of sociocultural deprivation. Significant advances in the management of hydrocephalus and the integration of disabled children into regular school programs have reduced the numbers of children with significant mental handicaps. At the present time it can be stated that the majority of children with meningomyelocele are not mentally retarded and have the potential to be fully participatory, contributing members of society.

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