political movements in which science shops have their roots.

In Holland, for example, one science shop at the Agricultural University of Wageningen decided 2 years ago to stop answering clients' questions because of fears that it was encouraging a technocratic approach to science. Similarly, London's technology network has been the focus of sharp criticism from members of the "radical science" movement, and the French boutiques have generated less support than they had hoped for from the highly politicized labor movement.

Although sensitive to the criticisms, science shop activists reply that there are times when it is appropriate to be pragmatic—even at the risk of losing some theoretical purity. Thus, the Dutch are now working on ways in which requests for help can be turned into relatively conventional research projects, and hence eligible for funding from traditional government sources. In London, one of the key questions facing the technology networks is how to work in, as well as against, the market, for example in disseminating the products of the community-based research and development workshops that are an integral part of the networks.

At the same time, efforts are being made to ensure that political principles are not submerged. The University of Amsterdam, for example, has recently shifted its emphasis from answering questions from individuals to answering problems defined by project groups formed around the needs of labor unions, environmentalists, women's groups and the Third World. The hope is that this will give a more concrete focus to the science shop and stimulate more interaction between those inside and outside the university in jointly identifying research needs.

Other science shops are, in their different ways, struggling to balance political principles with the responsibilities imposed by the use of public funds—a dilemma felt particularly acutely in London, where Prime Minister Margaret Thatcher is already threatening to abolish the GLC partly as a result of its explicit challenge to her economic policies.

In spite of these difficulties, experiences in Britain, France, and Holland have encouraged similar projects in West Germany, Belgium, Italy, and Switzerland, and inquiries are coming from as far away as Australia. In the medium term at least, science shops are likely to remain a firm fixture of European science.—**DAVID DICKSON**

States Want Stiffer EDB Rules

Environmental Protection Agency (EPA) administrator William Ruckelshaus announced last week a phaseout of the pesticide ethylene dibromide (EDB) for use on citrus fruit, characterizing it as "the last of EPA's major decisions" regarding the chemical. But the issue is not yet settled because several states are contemplating more stringent tolerance levels for grain products than those set by the federal government. The proposals have confused consumers and infuriated food manufacturers. Cargill, a major grain producer, has threatened to stop shipment to states that impose stricter standards than EPA.

Several northeastern states are proposing harsher standards for a variety of reasons. According to Stephen Havas, deputy commissioner of the Massachusetts public health department, state officials there looked at EPA's data and concluded that "there was no safe threshold for cancer. We decided we had to get as close to a zero level as possible." So far Massachusetts is the only state that formally issued a regulation setting a tolerance level lower than EPA's 30 parts per billion (ppb) limit for ready-to-eat food. According to the state standard, EDB concentrations currently cannot exceed 10 ppb and, after 7 March, the limit drops to 1 ppb.

New York wants to impose a 10 ppb level as well but for different reasons. While EPA based its decision on a review of cancer risk, New York health officials are proposing a lower standard because of concern about reproductive hazards. Unlike EPA, they incorporated several additional factors into their analysis, including exposure to EDB in ambient air (EDB is used as an antiknock agent in leaded gasoline), and higher estimates of grain consumption than EPA's analysis.

Nancy Kim, director of the bureau of toxic substance assessment, says that New York's proposed 10 ppb limit stems from concern raised by two animal studies, which were not part of EPA's risk assessment. These studies, along with other reproductive studies reviewed by EPA, suggested to Kim that EDB in small amounts can cause reproductive and behavioral damage. A University of Texas study currently in press indicates that EDB is genotoxic at low levels in rats. Male rats were exposed to EDB concentrations as low as 1 milligram per kilogram per day for five days and then bred with unexposed females. The offspring demonstrated "significant" behavioral changes, according to Kim.

Kim and colleagues also contend that EPA underestimated the amount of grain eaten by adults and children. According to figures provided by General Foods Corporation and the U.S. Department of Agriculture, New York authorities calculated that adults and children eat double the amount of grain that EPA used in its own risk estimate. EPA derived its estimates from Department of Agriculture figures, but for some reason, came up with different amounts.

Kim and colleagues also believe, based on a Stanford University study, that ambient air in major cities is contaminated with a significant amount of EDB. EPA officials have said that EDB in air does not pose a health risk.

Taking into account all this additional data, Kim then determined the concentration at which no behavioral effects were seen in the rat study, calculated the margin of safety at various no-effect levels, and then settled on a margin of 1000 as safe. This margin of safety for a 2-year-old child corresponded to a 10 ppb level. At 10 ppb, the cancer risk for adults, according to Kim's calculations, would also be somewhat less than EPA's estimate.

New York plans to propose a regulation to limit EDB to 10 ppb in ready-to-eat foods, but the rule-making process may take one to two months. In the interim, the state is following EPA's tolerance standards.

In a separate action, Ruckelshaus also disclosed last week that he would push for the phaseout of leaded gasoline, which would incidentally cut down EDB exposure from air. Ruckelshaus' proposal stems from concern about lead pollution. People are substituting leaded gasoline for unleaded fuel out of the mistaken belief that it will increase their car's performance.

—**MARJORIE SUN**