

CHEMICALS

Environment linked to origins of cancer

PALM COAST, Fla. (AP) — If U.S. statistics are correct, almost 95 percent of all cancers are caused by chemicals in the environment, a University of Florida researcher says.

"Five percent are caused by physical means such as radiation, and less than 1 percent are caused by external viruses," said Per-Olov Lowdin, who is working on a National Foundation for Cancer Research grant to investigate the origins of cancer.

Under the foundation grant, Lowdin will coordinate a worldwide exchange of cancer information. The National Foundation for Cancer is a center for gathering and analyzing conclusions from cancer data generated by experimental groups around the world.

"It is an enormous task to find and evaluate this information," says Lowdin, founder and head of the University of Florida's Quantum Theory Project and director of the International Quantum Theory Symposium here for the past 23 years.

The symposium was organized by Lowdin to "stimulate creative new lines of research." Quantum biology will be the topic covered in the third part of the symposium, Monday through Wednesday, and cancer research will be a major subject.

According to Lowdin, chemicals can promote cancer by damaging the proteins sheltering the genes, causing a "misreading" of the genetic code. Apparent mutations such as tumors, cancers and the familiar signs of aging are the result.

Lowdin's particular interest lies in specific genes that govern the development of an embryo. These genes are active only in the early stages of embryo development, but nevertheless are present in every cell of an adult organism. Normally, they are inactive in the adult, kept dormant and stable by their protein shield, Lowdin says.

Cancers could begin when the proteins covering these genes in the adult are damaged by chemicals, Lowdin says. They could then become free to revert to rapid growth as in a developing embryo, or cancer. This can happen in any part of the body, but particularly in the breasts and uterus.

Like a developing embryo, cancer grows much faster than the normal tissue of an adult organism. To see if the rapid growth of tumors and embryos are related, Lowdin wants to look at the specific proteins required for tissue formation by the normal developing embryo and compare them to proteins required by cancerous growths.

Lowdin says even partial damage to proteins covering the active genes in a developing embryo can result in an adult organism that will have less resistance to chemical carcinogens in the environment.

Lowdin, a member of the final selection committee for the Nobel Prize in Physics, has been interested in cancer research since the development in the early 1950s of the Watson-Crick double-helix model of deoxyribonucleic acid, or DNA, which makes up the body's genes. The study of this elementary material is called quantum genetics.

Sponsored by the university's Quantum Theory Project and by the Quantum Chemistry Group of the University of Uppsala in Lowdin's native Sweden, the symposium is held each winter. Some of the world's leading scientists attend the meetings, held this year March 5-16.

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by using a generic registration standard system. The agency is in the process of developing a standard for each of the some 600 active ingredients in currently registered pesticides.

The standard for a chemical gives the agency's regulatory position on registration of products containing that chemical and is intended to allow the agency to register new products by reference to the standard, rather than by conducting a full-scale review of each application to determine if all requirements have been met by the individual applicant.

Use of such a standard to register a pesticide, the agency argued, requires that new applicants agree to rely on the data — submitted by earlier registrants — that the agency used in preparing the standard.

The loss of the cite-all rule, therefore, may slow the agency's progress in reregistering all pesticide products to bring the data base on older products up to current federal standards. EPA may have to look to Congress for relief. A proposed amendment to FIFRA intended to resolve some of the problems with cite-all came close to passage in the last session of Congress and is likely to be reintroduced this year.

No Congressional Intent

EPA argued in the suit that Congress intended the agency to use a generic standards approach when it directed the agency, in 1978 FIFRA amendments, to establish simplified registration procedures.

Penn disagreed. "While the 'generic standards program' might be most fairly implemented by the 'cite-all' regulations, there is nothing in the statute to suggest that Congress intended the applicant to bear the cost of gathering all the information germane to the establishment of a generic standard for a particular active ingredient," he declared.

Penn's ruling was silent on whether the agency could continue to use registration standards to support streamlined registration procedures in the absence of cite-all. The agency is trying to evaluate the effects of the ruling on its registration program and may ask the court for a clarification of its decision, according to an EPA Registration Division official. A Justice Department attorney told BNA Jan. 26 that the government had not decided whether to appeal the ruling.

Rulemaking Under Way

Further complicating the situation is a recent federal appeals court ruling that EPA violated procedural rules in issuing its registration rules in 1979. As a result of that decision, the agency is now in the process of notice-and-comment rulemaking on those regulations.

EPA formally proposed the rules, including the cite-all rule, for public comment Dec. 27, 1982 (Dec. 31, 1982, p. 1101).

Pesticides

BROWN REMAINS CHAIRMAN OF SUBCOMMITTEE ON FIFRA OVERSIGHT; CANCER HEARING PLANNED

Rep. George Brown (D-Calif) is retaining chairmanship of the House Agriculture Subcommittee on Department Operations, Research, and Foreign Agriculture and plans February hearings on pesticide regulatory programs, picking up where the subcommittee left off when the 97th Congress adjourned in December 1982.

Under Brown's leadership, the panel has emphasized its responsibility for oversight of Environmental Protection Agency regulatory activity under the Federal Insecticide, Fungicide, and Rodenticide Act. The subcommittee will take

up FIFRA questions again in mid-February, with two days of hearings planned on the findings of the recently completed staff report on EPA pesticide regulatory procedures (Current Report, Dec. 17, 1982, p. 1075).

The first day of hearings will be devoted to a discussion of cancer policy issues, with the second day assigned to discussing the balance of the staff report, according to a subcommittee staff member. The section of the report that raises questions about EPA's handling of potentially carcinogenic pesticides was severely criticized by the agency and is undergoing peer review by independent cancer experts (Jan. 14, p. 1171).

Panel Membership Changes

The department operations subcommittee may need some time to become familiar with complicated pesticide issues, since more than half of the members are new to the panel this year.

The Republicans lost one seat on the panel as a result of last year's elections, while the Democrats picked up two seats, gaining a two-to-one majority.

The eight Democrats on the subcommittee include:

- Brown and Reps. Thomas Foley (Wash), and Leon Panetta (Calif), who were members of the subcommittee last year;

- Reps. Tony Coelho (Calif) and Harold Volkmer (Mo), who were on the Agriculture Committee last year, but not on the subcommittee; and

- Newly elected Reps. Harley Staggers Jr. (WVa), James Olin (Va), and Timothy Penny (Minn).

On the Republican side, Reps. Pat Roberts (Kan) and Cooper Evans (Iowa) remain on the subcommittee and are joined by Rep. Steve Gunderson (Iowa) and newly elected Rep. Webb Franklin (Miss).

On the Senate side, subcommittee memberships have not been decided yet, but little change is likely. There is only one change in the membership of the full Agriculture Committee, where Sen. Pete Wilson (R-Calif) took over the seat of retiring Sen. Sam Hayakawa (R-Calif).

Reporting

CANCER, HYPERPLASIA NOTED IN ANIMALS EXPOSED TO ETHYL ACRYLATE, NTP DRAFT SAYS

Increased incidences of cancer and hyperplasia in test animals exposed to ethyl acrylate were indicated in a draft National Toxicology Program study, Union Carbide Corp. told the Environmental Protection Agency.

According to the company, male and female mice and rats administered ethyl acrylate by gavage showed "significantly higher" incidences of benign tumors and cancerous tumors and increases in inflammation, hyperplasia, and hyperkeratosis of the forestomach.

Union Carbide notified the agency of the preliminary test results under the Toxic Substances Control Act Section 8(e) substantial risk provisions. That part of the act requires companies to notify the agency 15 days after receiving data that show a chemical may present a "substantial risk of injury to health or the environment."

Because the NTP test data are preliminary, the firm noted it has not concluded whether the chemical presents a substantial risk of injury to human health.

Specifically, the draft report indicated that "for animals of each sex, incidences of squamous cell papillomas, squamous cell carcinomas, or either papillomas or carcinomas occurred with statistically significant positive trends."

The firm noted it did not plan to notify employees, customers, or other government agencies of the test results until final results and assessment of the data are available.

Chlorine Gas

In a separate TSCA Section 8(e) notice, E.I. du Pont de Nemours & Co. reported that persons inadvertently exposed to chlorine gas suffered no serious or long-term health effects.

Dupont said about 1,100 pounds of chlorine gas were released into the atmosphere at the firm's Niagara Falls, N.Y., plant, with 76 persons inadvertently exposed to the chemical. The people reported to local hospitals for observation, but most were released immediately and the company said no incidences of "serious or prolonged incapacitation" were reported.

Because no long-term health effects were noted, Dupont said release of the chemical did not present a substantial risk under TSCA and the letter was submitted as a "follow-up report."

2,4,5-T

EPA ANN UNCES INTENTION TO DISCLOSE CONFIDENTIAL DATA IN AGENT ORANGE SUIT

Vietnam veterans and chemical companies engaged in a liability suit will be given access to confidential and trade secret information about phenoxy herbicides, the Environmental Protection Agency announced Jan. 27 (48 FR 3859).

The information from the agency's files is being released under a discovery request filed by several of the defendant companies in *Agent Orange Product Liability Litigation* (U.S. District Court for the Eastern District of New York, MDL No. 381).

The agency notice tells those who may have given EPA confidential information subject to disclosure that they may attend a hearing to comment on the adequacy of the protective order.

The suit was brought by veterans seeking damages from former manufacturers of Agent Orange, a defoliant used in large amounts by the military in Vietnam. The veterans contend they or their children suffered adverse health effects as a result of their exposure to the herbicide.

Defendants Dow Chemical Co., Diamond Shamrock Corp., Hercules Inc., Monsanto Co., Thompson-Hayward Chemical Co., Hooker Chemical Co., Uniroyal Inc., Thompson Chemical Corp., and Hoffman-Taff Inc. asked the court for access to information in EPA files concerning Agent Orange, its active ingredients 2,4,5-T and Silvex, and its toxic contaminant 2,3,7,8-tetrachlorodibenzo-p-dioxin.

Protective Order

EPA protested that substantial cost and delay would be involved in going through the documents — estimated at over a million pages — and separating information considered confidential under the Federal Insecticide, Fungicide, and Rodenticide Act and other laws. Instead, the agency proposed that the documents be made available to the parties in the case under a strict protective order.

The order, signed by U.S. Circuit Judge George C. Pratt Jan. 13, provides that release of confidential, trade secret, or otherwise privileged information will not be considered public disclosure. It instructs the parties to maintain the confidentiality of such data. FIFRA penalties for unlawful use of information acquired by the agency under authority of act will apply to parties that violate the protective order the court noted.

Although the parties in the suit have agreed to the terms of the order, much of the information in question was submitted to the agency by parties not involved in the litigation. A hearing at which such parties may testify or present evidence will be held March 4 in Uniondale, N.Y., before Special Master Sol Schreiber, the agency notice said.

Those wishing to participate must notify Schreiber by Feb. 23, by contacting him at Suite 4915, 1 Penn Plaza, New York, N.Y. 10119; (212) 594-5300. For further information, contact Judith Wheeler, Office of General Counsel, Pesticides/Toxic Substances Division (A-132), EPA, 401 M St. S.W., Washington, D.C. 20460; (202) 382-7510.

Administration

BRACKEN RESIGNS; OPTS ROLE SHIFTS IN INTERNATIONAL TOXICS POLICYMAKING

A struggle for control of international toxic substances policy, sparked by disagreements between Reagan Administration appointees and Carter Administration holdovers, caused one Environmental Protection Agency official to resign and resulted in a reorganization of the Office of Pesticides and Toxic Substances' international staff.

Marilyn Bracken, head of OPTS' Office of Toxics Integration, resigned effective Feb. 11. Bracken held the post under the Carter Administration and had been eased out of recent Reagan Administration international toxic substances control activity.

At the same time, the international policy staff was moved out of the integration office and placed under Don R. Clay, director of EPA's Office of Toxic Substances.

The move left that office with control of chemical integration activities and state support services. An agency official also noted that the fiscal 1984 budget reduces funding for the state services.

Bracken Resignation

Agency staff members said that Bracken's resignation came after conflict between Bracken and State Department officials led EPA officials to offer her an agency post not dealing with international activities. Instead, she resigned.

Serving as acting head of the Toxics Integration Office is Walter Kovalik, director of the integration staff.

John Ritch, executive director for OPTS Assistant Administrator John A. Todhunter, said the role of Bracken's Toxics Integration Office changed under the Reagan Administration.

Under EPA Administrator Anne M. Gorsuch, international policymaking was centralized in the Office of International Activities within Gorsuch's office. Instead of playing a major role in negotiating international toxic substances policy, Bracken's office served as a technical support staff, Ritch said.

Other agency staff members noted that, in addition, the State Department began to gain more control of international toxic substances policy. Some EPA staff members blamed State Department officials for freezing Bracken's staff out of the Second High Level Meeting on Chemicals of the Organization for Economic Cooperation and Development, held in Paris in November 1982 (Current Report, Nov. 19, 1982, p. 931).

Office of Toxics Integration

The OPTS Office of Toxics Integration's role, and with it, Bracken's role, in policymaking has declined sharply under the Reagan Administration.