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Report Finds No Link Between DDT and Breast Cancer

Combining the results of five major epidemiological studies still fails to link breast cancer to DDT and PCB exposure, says an analysis of those studies published in the May 16 issue of the *Journal of the National Center Institute*.

The re-evaluation was performed by scientists from Brigham and Women's Hospital in Boston, and the National Institute of Environmental Health Sciences (NIEHS) in Bethesda, Md. The analysis was intended to confirm the results

of the five earlier studies, which also had failed to establish a link. However, “some scientists thought that the studies might simply have been too small, and that their combined data might reveal such [epidemiological] associations - at least for some subgroups of women” the NIEHS said May 15. “DDT and PCBs were suspect because they are chemicals with similarities to estrogen, the female hormone associated with a risk of breast cancer.”

The compounds also were suspect because of their persistence in human tissue. However, “we found the combined results from these studies do not support an association between plasma or serum concentrations of [DDT metabolite] DDE and PCBs and an increase risk of breast cancer,” said Brigham’s Francine Laden, a principal author of the analysis.

The second author, Gwen Collman from NIEHS, said, “the investigators used a standardized approach to data analysis across all five studies and we did not find a consistent association in the various subgroups we looked at: Caucasian women, African-American women, and; women of various body mass and lactation histories.” The five earlier studies, all sponsored by the National Cancer Institute and NIEHS, date back to 1993. They involved a total of 1,400 breast cancer patients and 1,642 control patients.

“Two of the studies enrolled women in New York State; one involved Connecticut; one Maryland, and; one study used the nationwide Nurses’ Health Study cohort, of which more than half of the women live in the northeastern state of Maryland,” says an abstract of the published article. “Blood was drawn from all participants and analyzed for the presence of DDE and PCBs.”

The studies yielded “suggestions of effects in specific subgroups,” the abstract notes. But, because they had limited power for subgroup analysis, Laden and Collman decided to add up the findings and perform subgroup analyses.

“In the combined analyses,” the abstract says, “an influence of body mass index (BMI) was suggested, but there was no evidence of a dose-response relationship. Specifically, the odds ratios for breast cancer and exposure to high PCB levels among women in the middle category of BMI (25-29.9 kg/m²) were elevated, and those for the heaviest women tended toward a protective effect. Thus, the authors conclude that exposure to DDE and PCBs, as measured in adult women, is unlikely to explain the high rates of breast cancer experienced in the northeastern United States.” (From: P&TCN, Vol. 29, No. 30)

For more info link to: <http://www.niehs.nih.gov/oc/news/notbc.htm>

REF: *Kansas Pesticide Newsletter*, 24(6), June 8, 2001.



NTP Final Report, Endocrine Disruptors Low Dose

Summary

The National Toxicology Program (NTP)/National Institute of Environmental Health Sciences (NIEHS) organized and conducted a scientific peer review at the request of the US Environmental Protection Agency (EPA) to evaluate reported low-dose reproductive and developmental effects and dose-response relationships for endocrine disrupting chemicals.

Background

The NTP final report will be provided to the US EPA to help guide the agency in determining whether or not its guidelines for reproductive and developmental toxicity testing are adequate for endocrine active chemicals. For this meeting, "low-dose effects" referred to biological changes that occur in the range of human exposures or at doses lower than those typically used in the US EPA's standard testing paradigm for evaluating reproductive and developmental toxicity.

The peer review included plenary sessions and several subpanel meetings. The peer review panel was divided into five subpanels: Bisphenol A, Other Environmental Estrogens and Estradiol, Androgens and Anti-Androgens, Biological Factors and Study Design, and Statistics and Dose-Response Modeling. The Panel examined data from major, selected studies (excluding studies on phthalates and dioxin and dioxin-like compounds) supporting the presence or absence of low-dose effects in laboratory animals that could be relevant for human health assessments. The Panel was also asked to evaluate the shape of the dose-response curve for endocrine active substances in the low-dose region. Prior to the peer review, members of the Statistics and Dose-Response Modeling Subpanel analyzed the raw data on selected parameters for 38 studies and provided its analyses to the other subpanels. At the peer review, members from this subpanel participated in other subpanels.

Additional Information About the Endocrine Disruptors Low-Dose Peer Review

For additional information about the Endocrine Disruptors Low-Dose Peer Review including the peer review's program, list of participants, literature reference lists, and Federal Register notices, visit the NTP web site at: <http://ntp-server.niehs.nih.gov> and click on "What's New?"

REF: *Federal Register*, 66(95), May 16, 2001.



Hantavirus Pulmonary Syndrome - Vermont, 2000

In 1993, an outbreak of an unexplained pulmonary illness occurred in the southwestern United States. This outbreak led to the first description of hantavirus pulmonary syndrome (HPS), a rodentborne hantaviral infection. Hantaviruses have been found in rodents in rural areas throughout the United States, but most infection has occurred in the southwest. This report describes the first HPS case in Vermont and underscores the importance of preventing exposure to peridomestic rodents and recognizing the signs and symptoms of HPS.

On February 17, 2000, a 61-year-old previously healthy Vermont resident was hospitalized following three syncopal episodes and 1 week of chills, fever (<102 F ([<39 C]), nausea, vomiting, anorexia, and right knee pain. During the 2 months preceding hospitalization, the patient, who resided in a house on four rural acres, had cleaned a mouse nest from a woodpile, observed mice in the basement, and trapped two mice under the kitchen counters.

During an onsite investigation conducted April 21 by the Vermont Department of Health, mice droppings were observed under the kitchen counter and in the cellar. In April and May, the wildlife services program of the U.S. Department of Agriculture trapped rodents within a 5-mile radius of the patient's house to estimate the prevalence of hantavirus infection in local rodent populations. After 1632 trapnights (i.e., number of traps times the number of nights), 46 rodents were captured, including six deer mice (*Peromyscus maniculatus*), 13 white-footed mice (*P. leucopus*), 21 woodland jumping mice (*Napaeozapus insignis*), one meadow jumping mouse (*Zapus hudsonius*), four chipmunks (*Tamias striatus*), and one vole (*Microtus sp.*). Because cases of hantavirus infection are new among humans and the rodent reservoir is not well described, especially in the northeast, most of these rodents were tested serologically at CDC for hantaviral antibodies. Among 43 rodents tested, two of five deer mice were positive for hantaviral antibodies; all other rodents were negative.

Editorial Note: This report describes the first case of HPS acquired in New England; only 15 (5%) of the 284 cases confirmed by CDC have occurred east of the Mississippi River. Hantaviruses known to cause HPS in the United States include Sin Nombre, New York, Monongahela, Bayou, and Black Creek Canal viruses. Because rodent species that host one or more viruses are found throughout the contiguous United States, sporadic cases may occur anywhere on the mainland. Among approximately 115 (75%) of 153 patients with documented exposure to rodents or rodent droppings, exposure had occurred in and around the house. In Vermont, the primary rodent reservoirs of these hantaviruses are likely to be the deer mouse (*P. maniculatus*) and the white-footed mouse (*P. leucopus*). Other rodent species known to carry HPS-associated hantaviruses include the rice rat (*Oryzomys palustris*) and cotton rat (*Sigmodon hispidus*).

To read the entire report link to: < <http://www.cdc.gov/mmwr/> >

REF: *Morbidity and Mortality Weekly Report*, 50(28), July 20, 2001.



State Offers Tips to Prevent Hantavirus Pulmonary Syndrome

California state health officials today reminded individuals entering cabins, trailers and other buildings where wild rodents are present to protect themselves from the virus that causes hantavirus pulmonary syndrome (HPS).

HPS, is a rare, but often fatal respiratory disease caused by a virus transmitted to humans through contact with the urine, droppings and saliva of wild mice, primarily deer mice. The illness starts with fever, headache, muscle ache and vomiting or diarrhea. It progresses rapidly to severe difficulty in breathing and sometimes death.

Individuals become infected by dust contaminated with mouse urine or droppings. Cleaning or occupying poorly ventilated spaces with heavy rodent infestations are considered particularly hazardous. Hiking and other outdoor

recreational activities are not believed to pose significant risk for HPS infection.

To reduce the risk of HPS, public health officials recommend the following:

- Avoid areas, especially indoors, where wild rodents are present.
- Spray areas contaminated with droppings and urine with diluted bleach. Wear plastic gloves to place the waste in a plastic bag and discard it in the trash. Wash hands thoroughly after handling rodent waste.
- Do not touch or handle live or dead rodents. Trapped or dead rodents should be sprayed with bleach and disposed of while wearing gloves. Wash hands thoroughly after handling dead rodents.
- Keep rodents out of buildings by removing stacked wood, debris piles and sealing any holes where rodents can enter. Keep food in tightly sealed containers and store away from rodents.
- Contact a pest control service for recommendations on removing rodent infestations.

Last year, eight hantavirus cases were reported, of which two were fatal. No cases have been reported this year. Since HPS was first identified in 1993, 33 HPS cases have occurred in California. Nationwide, 283 HPS cases have been diagnosed in the United States since 1993. About 40 percent of HPS have been fatal.

REF: California Department of Health Services Office of Public Affairs Press Release, 41-01, June 14, 2001.

<http://www.dhs.ca.gov>



FDA to Develop Monitoring Program for Dioxin

FDA's Center for Food Safety and Applied Nutrition will develop a monitoring program for dioxin as part of its food safety plan for FY 2002. For the first time, FDA is adding surveillance of dioxin, which is a known human carcinogen found in animal fat, to its "A" list of priorities in an FY 2002 work plan. FDA plans to test 500 food samples for dioxin.

Dioxin is at the center of controversy and concern by the food industry right now because EPA has just completed a decade-long draft reassessment of dioxin that concludes 2,3,78-tetrachlorodibenzo-p-dioxin (TCDD) is a human carcinogen.

USDA's Food Safety and Inspection Service and FDA's Center for Veterinary Medicine have been monitoring and conducting surveys for dioxin. Last year, CVM announced it was going to target fish meal, oilseed and molasses processors as part of a preliminary national survey on dioxin-like compounds in animal feed. CVM planned to collect 48 samples, which would be equally divided between animal and plant origin.

It has been estimated that about 95% of the average person's exposure to dioxins occurs through consumption of food, especially food containing animal fat, according to USDA.



NTP Plans to Look at Common Viruses, Radiation, Cooking by-Products for New Carcinogen Report

The National Toxicology Program (NTP) announced it plans to review three viruses, three forms of radiation, two substances formed in cooking, and a variety of industrial exposures for possible listing in the eleventh edition of the federal Report on Carcinogens, which will be published in 2004.

The NTP, which is headquartered at the National Institute of Environmental Health Sciences, prepares such a report every two years. The report is mandated by Congress to help assure that substances or conditions that are likely to cause cancer are properly recognized by the public and regulatory agencies. Substances may be listed as "known" or as "reasonably anticipated" human carcinogens.

The NTP's announcement of its plans, which was published in the Federal Register, asks the public and scientists to comment during the next 60 days on the nominations and to provide any data on whether they are carcinogenic, how much is produced, how they are used and in what ways people are exposed. The 16 nominations for NTP's planned review are:

- 1-Amino-2,4-dibromoanthraquinone, a vat dye used in the textile industry.
- 2-Amino-3,4-dimethylimidazo[4,5-f]quinoline (or MeIQ), a substance formed in food during heating or cooking and found in cooked meat and fish.
- Cobalt Sulfate, which is used in electroplating and electrochemical industries, as a coloring agent for ceramics, as a drying agent in inks, paints, varnishes and linoleum and as a mineral supplement in animal feed.
- Diazoaminobenzene (DAAB), which is used to promote adhesion of natural rubber to steel, as a polymer additive and an intermediate in the production of a number of pesticides, dyes and other industrial chemicals.
- Diethanolamine (DEA), which is used in preparing liquid laundry and dishwashing detergents, cosmetics, shampoos and hair conditioners, as well as in textile processing and other industrial uses.
- Hepatitis B Virus (HBV), a small DNA-enveloped virus that is transmitted through contact with blood and blood products or other body fluids.
- Hepatitis C Virus (HCV), an RNA-enveloped virus mainly transmitted in blood as is HBV above.
- High Risk Human Papillomaviruses (HPVs), small non-enveloped viruses that infect genital mucous membranes. HPV infections are common throughout the world.
- X-radiation and gamma radiation, used in medical diagnosis and treatment, and produced in the use of atomic weapons.
- Neutrons, which may affect patients getting neutron radiotherapy and the passengers and crew of aircraft, which are naturally bombarded by the particle.
- Naphthalene, which is used in making many industrial chemicals, and as an ingredient in some moth balls and toilet bowl deodorants.
- Nitrobenzene, which is used in the production of aniline, a major chemical intermediate in the production of dyes.
- Nitromethane, a stabilizer added to many halogenated solvents and aerosol propellants.

- Phenylimidazopyridine, which, like MeIQ (second item), is formed in food during heating and cooking and is found in cooked meat and fish.
- 4,4'-Thiodianiline, which is an intermediate in the manufacture of several dyes.

The URL for this press release is: <http://www.niehs.nih.gov/oc/news/11throc.htm>

REF: NIEHS PR #01-20, July 24, 2001.



Antacids May Increase Susceptibility to Oyster-Associated Disease

If you pop antacids you may be more susceptible to disease from eating raw oysters, say researchers from the Food and Drug Administration's Gulf Coast Seafood Laboratory. Using a simulated gastric environment, the researchers found that antacids significantly increased the survival rate of *Vibrio vulnificus*. Most commonly found in marine waters of the U.S. Gulf Coast, *V. vulnificus* has the highest case fatality rate of all the foodborne diseases in the United States, and is commonly contracted by ingesting tainted oysters. In order to cause disease, though, the bacteria must first survive the highly acidic environment of the stomach, and it is the use of antacids that may help these bacteria get past the stomach and to the intestines where they can cause disease.

"Presence of antacid in the gastric compartment of the model greatly increased the ability of both *V. vulnificus* and its phage to survive simulated gastrointestinal transit and may be a factor involved with oyster-associated illness," say the researchers.

(J. Koo, D.L. Marshall and A. DePaola. Antacid increases survival of *Vibrio vulnificus* and *Vibrio vulnificus* phage in a gastrointestinal model. *Applied and Environmental Microbiology*, 67: 2895-2902.)

REF: Highlights from the Journals of the American Society for Microbiology, July 2001.



◆ Toxicology Tidbits ◆

Mortality Declines for Several Leading Causes of Death in 1999

Mortality for several leading causes of death declined in 1999, according to preliminary figures from Health Human Services Centers for Disease Control and Prevention (CDC). The report shows age-adjusted death rates continued to fall for heart disease and cancer, the two leading causes of death in the U.S. that account for more than half of all deaths in the country each year. In addition, suicide, homicide and firearm mortality dropped an estimated 6 percent between 1998 and 1999.

At the same time, there were increases for other leading causes of death, including septicemia (6.6 percent); hypertension (5 percent); chronic lower respiratory diseases (4 percent), and diabetes (3.3 percent).

These estimates are featured in a new CDC report, "Deaths: Preliminary Data for 1999," an analysis of over 99 percent of the death certificates recorded in the United States for 1999.

Mortality from HIV infection, which dropped more than 70 percent over the previous three years (1996-1998), continued this trend by decreasing nearly 4 percent in 1999. Though it is no longer ranked among the leading causes of death in the U.S., HIV infection still ranks 5th among 25-44 year-olds, and is the leading cause of death for black men in this age group. Among black women in this age group, HIV ranks 3rd. HIV mortality declined 26 percent in 1996, 48 percent in 1997, and 21 percent in 1998.

While the five leading causes of death in 1999: Heart disease, cancer, stroke, chronic lower respiratory disease (formally classified as "Chronic obstructive pulmonary diseases and allied conditions") and accidents (unintentional injuries) remained unchanged from the previous year, some significant changes did occur in the ranking of leading causes.

Suicide dropped from 8th to 11th among leading causes of death as the number of suicides in the U.S. fell more than 5 percent from 30,575 in 1998 to 29,041 in 1999.

The new cause-of-death classification system also resulted in a significant shift in ranking for Alzheimer's disease. In 1998, Alzheimer's disease ranked 12th among leading causes of death but jumped to 8th in 1999, due mainly to the inclusion of a cause of death formerly classified separately as "presenile dementia," which accounted for a substantial number of additional Alzheimer's deaths in 1999. The 44,507 deaths from Alzheimer's disease in 1999 surpassed the totals for other major causes of death, including motor vehicle accidents and breast cancer.

The report can be found online at the CDC web site: <http://www.cdc.gov/nchs>.

REF: HHS press release, June 26, 2001.



Find Labels Online

The California Department of Pesticide Regulations has enhanced its links to the U.S. Environmental Protection Agency's Pesticide Products Information System with online access to product labels. The label images, in TIF format, allow users to look for a product by trade name, registrant, chemical and other criteria, and then review the label on that product for information about target pests and directions for use. (These labels are federally registered. Most but not all are registered in California. Online labels are solely for informational purposes and not for use in lieu of DPR-approved labels.)

www.cdpr.ca.gov/docs/epa/epamenu.htm



Red Imported Fire Ant Project

The California Department of Pesticide Regulations posts monthly reports on surface water monitoring for chemicals used against the fire ant in Southern California. www.cdpr.ca.gov/docs/rifa



Bushwhacked by Arsenic? Part 2: Water, Water Everywhere, and a Drop of Arsenic, Too

(by Dr. Allan S. Felsot, Environmental Toxicologist, WSU)

Amidst the flurry of the presidential pardons in the waning moments of the Clinton administration, the EPA had little generosity toward arsenic in drinking water. With publication of the January 22, 2001, *Federal Register* (the government's town crier for all rules and regulations), the longstanding 50 µg/L (ppb) maximum contaminant level (MCL) for arsenic was lowered to 10 ppb. Congress had mandated EPA to propose a new drinking water regulation for arsenic as part of the reauthorization of the Safe Drinking Water Act in 1996. Furthermore, EPA was to seek research that would help reduce the uncertainty in assessing health risks from exposure to low levels of this naturally occurring,

ubiquitous element.

To read the entire article link to: < [Agrichemical and Environmental News](#) >

REF: *Agrichemical and Environmental News*, 183, July 2001.



Information on Lead

The **EPA Office of Pollution Prevention and Toxics Lead Page** (<<http://www.epa.gov/opptintr/lead/>>) was created to address residential lead hazards. This website provides access to both final rules and regulations but also the latest pending regulations as well. Also on the website is access to booklets, brochures, and other educational materials many of which are intended for the concerned home owner and/or parent. Technical materials on the extensive research currently on-going at the EPA also appears. The site provides links to other websites as well as regional contacts. Additionally, you can order materials or speak to an information specialist by contacting the National Lead Information Center (NLIC) (<http://www.epa.gov/lead/nlic.htm>) at 1-800-424-LEAD (5323).

The Lead Contamination Control Act of 1988 authorized the **Center for Disease Control** to create a program to eliminate childhood lead poisoning in the United States. Their website (<<http://www.cdc.gov/nceh/lead/lead.htm>>) contains the latest news on lead poisoning prevention, information about the program, grant information, research and surveillance publications, screening guidelines, and links to other websites. The website also offers its 1990 Census Data on Housing and Population Database which is searchable either by county and zip code or by census tracts.

The purpose of the **Global Lead Network** and its website (<<http://www.globalleadnet.org/>>) is to not only provide resources and support for lead poisoning professionals but also to provide a place where stakeholders interested in developing and implementing solutions to lead poisoning and pollution can communicate with each other and share information. As such, the site contains a searchable database of network members. Besides the Network Directory, the website also contains information on prevention policies, best practices, advocacy tools, and The Alliance To End Childhood Lead Poisoning, a non-profit, public interest organization devoted to the prevention of lead poisoning. Sponsored by the Winslow Foundation, the website is available in Spanish, French, German, Italian, and Portuguese besides English.

eMedicine.com is a peer-reviewed medical reference website (<<http://www.emedicine.com/emerg/topic293.htm>>). Their Lead page offers an overview on the pathology and history of lead poisoning. It includes information on the author, Steven Marcus, MD, Executive Director, New Jersey Poison Information and Education System, Associate Professor of Pediatrics, Newark Beth Israel Medical Center, and editors, all medical professionals. Contact information for both the author and the editors is also available. Besides basic background, clinical, medication, and treatment information on lead poisoning, there is also a bibliography and some photos of victims of lead poisoning.



Healthy Schools Act of 2000

DPR Regulation #01-005 Healthy Schools Act of 2000 Pesticide Use Reporting and Recordkeeping

The proposed regulatory action pertains to pesticide use reporting and recordkeeping requirements for licensed pest control businesses for work performed on public school sites.

The California Department of Pesticide Regulation (DPR) proposes to amend section 6624 and adopt section 6625 of Title 3 CCR. The pesticide regulatory program activities that will be affected by the proposal are those pertaining to pesticide use reporting and recordkeeping requirements for licensed pest control businesses for work performed on public school sites. In summary, the proposed action would require licensed pest control businesses to include information on any public school site pesticide application that they performed as part of their recordkeeping requirements, and require pest control businesses to report, at least annually, pesticide use at public school sites to the Department.

DPR proposes to amend section 6624 to require licensed pest control businesses to maintain specific record information for each pesticide application made to all school sites, effective January 1, 2002. The information includes date of application, name and address of the school site, pesticide and quantity used, and the location of the application. "Location" refers to that part of the school site the application takes place (playground, field, building, cafeteria, classroom, vehicle, etc.).

REF: <http://www.cdpr.ca.gov/> Click on "What's New", June 29,2001.



USDA Launches New Information-Based Website On Food Safety Research Programs

The U.S. Department of Agriculture (USDA) today launched a new Website (<http://www.nal.usda.gov/fsrio>) aimed at

providing a database of food safety research projects to the research community and the general public. The Website provides detailed information on food safety research projects, spending, and accomplishments by U.S. Federal agencies, along with links to other important food safety research information.

"This Website is a tool that researchers and policy makers can use to examine research needs and priorities in food safety," said Agriculture Secretary Ann M. Veneman. "The goal is to measure the progress of our food safety research and continue efforts to educate the public about these important issues."

The searchable database provides information on nearly 500 food safety research projects dating from 1998 to the present including research done or funded by: USDA Agricultural Research Service; USDA Cooperative State Research, Education, and Extension Service; the Food Safety Consortium (researchers from the University of Arkansas, Iowa State University, and Kansas State University); and the U.S. Department of Health and Human Services' Food and Drug Administration.

Also on the Website are: program and planning information, as well as various food safety reports, food safety news and information, and more than 100 links to Web-based food safety research information provided by U.S. and foreign governments, and educational and professional organizations.

The new Website was created by the Food Safety Research Information Office at USDA's National Agricultural Library with information from related government food safety agencies. The National Agricultural Library, part of the Agricultural Research Service, is the world's largest and most accessible agricultural research library, and the principal resource in the United States for information about food, agriculture, and natural resources.

REF: USDA, July 2, 2001.



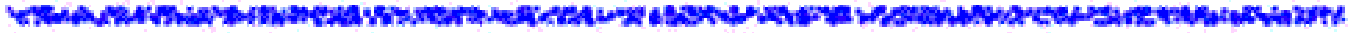
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Dietary Supplement Manufacturers Advised to Remove Comfrey Products

On July 6, the Food and Drug Administration (FDA) issued a letter to eight supplement and herbal industry organizations to communicate FDA's concern about the marketing of dietary supplements that contain the herbal ingredient **comfrey** (*Symphytum officinale* (common comfrey), *S. asperum* (prickley comfrey), and *S. x uplandicum* (Russian comfrey)). These plants are a source of pyrrolizidine alkaloids that present a serious health hazard to consumers when they are ingested.

Link to: <http://www.cfsan.fda.gov/~dms/dspltr06.html>

REF: U. S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, July 6, 2001.



Food Safety Information on Biotech Crops

The University of Nebraska has launched a new website designed to help consumers and students understand agricultural biotechnology. The site, at <http://www.agbiosafety.unl.edu>, contains lesson plans for teachers, basic biotechnology information for consumers, a frequently asked questions section, and a database of research information on all genetically engineered crops in North America.

REF: Agnet, July 24, 2001.



Out of the frying-pan, into the air

Non-stick coatings break down under heat

Burning your bacon may have more serious consequences than a spoilt breakfast, suggests Canadian research on chemicals used in non-stick frying-pans. Heat breaks this and similar compounds down to persistent and potentially toxic chemicals whose long-term environmental effects are unknown. Replacement gases for ozone-eating chlorofluorocarbons (CFCs) bring their own problems: they degrade in the atmosphere to trifluoroacetic acid (TFA), which lingers in the environment. But levels of TFA in rainwater are far higher than these fluorine-based coolants can account for.

Scott Mabury and his University of Toronto team point the finger at 'fluoropolymers', like Teflon and its chemical cousins. Increasingly used in high-temperature applications - ovens, cookware and engines - these 'fluoropolymers' are a likely source of TFA. At high temperatures the compounds give off TFA, the team confirm. They heated commercial products - such as motor oil, frying-pans and surgical needles - and pure polymers to 360-500°C, similar temperatures to those used to burn domestic waste. They then analyzed the products.

Degrading fluoropolymers are a major source of TFA in Toronto rainwater, the team suggests, using modeling to predict environmental levels. Being highly unreactive, TFA loiters almost indefinitely in soil and water. "We're using compounds that persist in the environment for very long periods of time," says Mabury. "The issue for society is: is this something we need to deal with?"

Some experts think not. Although TFA might be mildly noxious to plants, a 1999 risk assessment found no threat to humans and the environment, says Archie McCulloch, an environmental consultant in Northwich, England, who worked on the assessment.

Intriguingly, the oceans hold huge amounts of TFA, points out McCulloch, for which modern sources cannot be blamed. The large accumulation suggests a pre-industrial origin. "All in all, burning frying-pans in Toronto may add to the environmental burden of TFA but it's hardly significant," says McCulloch.

The discovery that the CFC replacements hydrochlorofluorocarbons and hydrofluorocarbons degrade into TFA prompted initial concern. Unlike CFCs, which slowly attack ozone in the high stratosphere, these fluorocarbons break down rapidly in the lower troposphere.

Besides TFA, fluoropolymer degradation releases other possible toxins, including long-chain perfluorocarboxylates, Mabury's team also found. One major source of such chemicals, waterproofing materials such as Scotchguard, were pulled off the market last year by their manufacturer 3M, based on evidence that they build up in human tissues. Again, long-term effects are unknown.

If CFCs taught us anything, it's to be careful about what we assume to be benign: "Any replacement is a potential pollutant," says Alan Brisdon, who studies such compounds at the University of Manchester, England. But he is cautious about incriminating fluoropolymers: "Compared to what's already in the atmosphere it probably has a negligible effect."

REF: *Nature*, July 19, 2001.



MSMA and DSMA

The EPA's Health Effects Division has completed revisions of the arsenicals MSMA and DSMA. The acute, chronic, and cancer dietary risk assessments are below the Agency's level of concern and with appropriate mitigation, occupational risks are acceptable. Residential risks are acceptable except for hand-to-mouth exposure for toddlers and ingestion of granulars.

REF: *Chemically Speaking*, June 2001.



Herbal Medicines and Perioperative Care

University of Chicago doctors have developed a list of recommendations on when to stop taking certain herbal products before an operation. Recommendations published in the *Journal of the American Medical Association*, refer to eight commonly used herbal products: echinacea, ephedra, garlic, ginkgo biloba, ginseng, kava, St. John's wort and valerian that may pose a concern during the perioperative period. **Complications can arise from these herbs' direct and pharmacodynamic or pharmacokinetic effects. Direct effects include bleeding from garlic, ginkgo, and ginseng; cardiovascular instability from ephedra; and hypoglycemia from ginseng. Pharmacodynamic herb-drug interactions include potentiation of the sedative effect of anesthetics by kava and valerian. Pharmacokinetic herb-drug interactions include increased metabolism of many drugs used in the perioperative period by St John's wort.**

A University of Chicago survey found that up to 50% of pre-surgery patients there use herbal medicine, and similar results have been found at other hospitals. Patients are encouraged to tell their physicians about any herbal products they may be taking and doctors should aggressively question patients about their use of such products, especially before surgery.

Although the American Society of Anesthesiologists has no official standards or guidelines on the preoperative use of herbal medications, public and professional educational information released by this organization suggest that patients discontinue their herbal medications at least 2 to 3 weeks before surgery.

REF: *JAMA*, 286(2), July 11, 2001.



Science Group States Dry-Cleaning Chemical Poses No Health Threat to Consumers

In a new report, the American Council on Science and Health (ACSH) concluded that the dry-cleaning fluid perchloroethylene (also called perc or PCE) is not hazardous to humans at typical levels of use.

Activists have frequently warned consumers to air dry-cleaned clothes thoroughly before wearing them, to rid them of any PCE residue. The new report [The Scientific Facts About the Dry-Cleaning Chemical Perc](#) notes that there is no need for consumers to fear adverse health consequences from exposure to recently dry-cleaned clothes or from living near a dry-cleaning establishment.

The new report examines the data behind claims that PCE is a health hazard — both in terms of possible toxic effects, and with respect to the possibility that it is a carcinogen. While industrial workers exposed to high levels of PCE on the job have been known to experience effects such as nausea, headaches, and dizziness, these effects are not seen in persons exposed to PCE at typical environmental levels.

Claims that PCE can cause cancer are largely based on studies of mice and rats in which they are exposed to very high levels of the chemical every day for a lifetime. Such exposures have resulted in liver cancers in mice, and kidney cancers in male rats. Importantly, rodents metabolize PCE differently than humans do; and available epidemiological data do not support extrapolation of this effect to humans — especially at the low concentrations to which consumers are typically exposed.

Several governmental agencies have investigated the possible risks of PCE but don't agree on the extent of the risks it might pose. Analyses of the most complete data sets do not support charges that PCE poses any risk to the general public.

ACSH president Dr. Elizabeth Whelan notes: "A careful analysis of the scientific data does not support the idea that PCE is an imminent hazard to the public. Claims that it is, are simply examples of how science is often skewed to generate unwarranted concerns."

REF: ACSH Press Release, July 2001.



So, What Is A Biopesticide?

The U.S. Environmental Protection Agency has defined biopesticides as: "Biopesticides are certain types of pesticides derived from such natural materials as animals, plants, bacteria, and certain minerals." They are also known as biological pesticides. For example, canola oil and baking soda have pesticidal applications and are considered biopesticides. At the end of 1998, there were approximately 175 registered biopesticide active ingredients and 700 products.

Biopesticides fall into three major classes. Microbial pesticides consist of a microorganism (e.g., a bacterium, fungus, virus or protozoan) as the active ingredient. (Examples: fungi that control certain weeds or specific insects). Plant-pesticides are pesticidal substances that plants produce from genetic material that has been added to the plant. (For example, scientists can take the gene for the Bt pesticidal protein, and introduce the gene into the plant's own genetic material. Then the plant, instead of the Bt bacterium, manufactures the substance that destroys the pest. Both the protein and its genetic material are regulated by EPA. The plant itself is not regulated.) Biochemical pesticides are naturally occurring substances that control pests by non-toxic mechanisms (Biochemical pesticides include substances, such as insect sex pheromones, that interfere with mating, as well as various scented plant extracts that attract insect pests to traps.)

(EPA web site <http://www.epa.gov/pesticides/biopesticides/>)

REF: *The Label*, 13(6), July 2001.



Electric & Magnetic Fields (EMFs)

The California Department of Health Services has released a new report on [Electric & Magnetic Fields \(EMFs\)](#). The report is a Risk Evaluation of the Possible Risks From Electric and Magnetic Fields (EMFs) From Power Lines, Internal Wiring, Electrical Occupations and Appliances

The Risk Evaluation analyzes the potential human health risks of magnetic field exposure. Specifically, this document provides an evaluation of the animal, laboratory and human evidence that shows how exposure to 50/60 Hz magnetic fields may or may not increase human health risks. The Risk Evaluation is based on the results of published research studies, with emphasis on new studies, the National Institute of Environmental Health Sciences (NIEHS) Working Group Report, and the results of the California EMF Program Studies.



New FDA Websites

The Food and Drug Administration has created a new Web page on **Antibiotic Resistance** that brings together

sources of information on the growing problem of disease-causing microbes that have become resistant to drug therapy.

Link to: http://www.fda.gov/oc/opacom/hottopics/anti_resist.html

FDA website offers "Just the Facts". Food safety, rare disorders, "mad cow disease," and animal health are among topics included in a series of one-page FDA information sheets available now online at:

<http://www.fda.gov/opacom/factsheets/justthefacts/default.htm>



West Nile Virus Activity - Eastern United States, 2001

In 2000, ArboNET, an enhanced human and animal surveillance system designed to monitor the geographic spread of West Nile virus (WNV) in the United States and to identify areas at increased risk for human infections with WNV, detected WNV activity in the District of Columbia and 12 states. This system, first implemented in the District of Columbia and 20 states along the Atlantic and Gulf coasts, was later expanded throughout the continental United States. This report summarizes ArboNET data from January 1 through July 25, 2001, which documents epizootic WNV activity in the southeast and indicates the need for widespread implementation of WNV prevention activities.

The first human infection in 2001 was identified in a 73-year-old man from Madison County, Florida, with illness onset on approximately July 15. He remains hospitalized with encephalitis. Equine surveillance identified three horses with neurologic disease attributed to WNV infection in Jefferson County, Florida, with illness onsets beginning on June 24. Avian mortality surveillance identified 142 WNV-infected birds from the District of Columbia (one bird) and 34 counties in nine states (Connecticut [four], Florida [21], Georgia [two], Maryland [51], Massachusetts [six], New Jersey [37], New York [16], Rhode Island [three], and Virginia [one]). Crows accounted for 126 (89%) of the reported birds. In New York City, one live hatch-year house sparrow had antibody to WNV. One sentinel chicken from Duval County, Florida, seroconverted to WNV in a serum specimen drawn on July 10.

Editorial Note: The findings in this report demonstrate multifocal epizootic WNV activity across the eastern United States, including new areas in the southeast. In 2000, avian mortality surveillance indicated northward spread of epizootic activity from the New York City metropolitan area in late spring and early summer, and southward spread as far as North Carolina in late summer and early fall, a finding consistent with viral spread by migrating birds. The detection of WNV in Florida and southern Georgia in 2001, extends substantially the known distribution of this virus. Although first detected in these areas in 2001, WNV may have been introduced into these states earlier, but epizootic viral activity remained below the detection threshold of surveillance.

In 2000, avian mortality surveillance identified 4305 WNV-infected birds, 77 of which were identified by August 1. The finding of 142 WNV-positive birds as of July 25, 2001, is twice the 2000 surveillance figures, and the geographic distribution of these birds differs between the 2 years. All of the birds identified in the early summer of 2000 were from

four states (Connecticut, Massachusetts, New Jersey, and New York), compared with 44% of those identified as of July 25, 2001.

Illness onset on approximately July 15 in the patient from Florida was the earliest of any person reported since the 1999 recognition of WNV in the United States. The extensive epizootic WNV activity and continued geographic expansion of the virus highlight the need for widespread implementation and intensification of surveillance, prevention, and control measures to minimize the risk for human and equine disease. Prevention activities have included the development and maintenance of long-term sustained mosquito-control programs using integrated pest management strategies and public education programs, emphasizing residential mosquito larval control and personal prevention measures to reduce mosquito exposure.

The U.S. Geological Survey, CDC, and other federal, state, and local government agencies have collaborated to establish

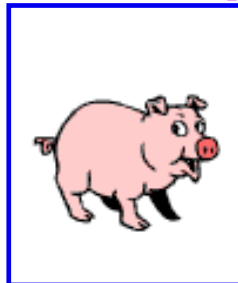
World-Wide Web-based maps to track the spread of WNV. These maps are available at http://cindi.usgs.gov/hazard/event/west_nile/west_nile.html. Additional information also is available from sites maintained by local and state health agencies. A partial listing of these sites is available at http://www.cdc.gov/ncidod/dvbid/westnile/city_states.htm.

REF: Morbidity and Mortality Weekly Report, 50(29), July 27, 2001.

Also, the National Pesticide Telecommunications Network (NPTN) at Oregon State University has developed "**NPTN's West Nile Virus Resource Guide**" web page as a source of available information on the West Nile virus and pesticide related topics. Link to: <http://ace.orst.edu/info/nptn/wnv/>



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