The study followed 229 women every 2 months from childbirth until weaning or until the infant was 18 months old. Samples of breast milk were collected just after birth and when the infants were 6 months old.

The fat content of the milk samples was analyzed for *p,p′*-DDE, the most common isomer of DDE. The correlation between *p,p′*-DDE and shortened lactation was confirmed, even when factors such as previous lactation and other reasons for weaning were considered. Among reasons for weaning were illness of the mother, use of oral or injected contraceptives, and the mother's perception that the child was old enough to be weaned. The most common reason for weaning was insufficient milk.

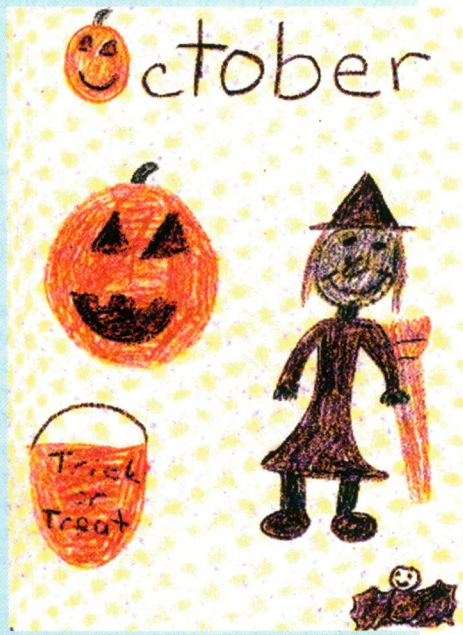
Since infant illnesses showed no correlation with DDE levels, the researchers reasoned that DDE was somehow tampering with the process of lactation itself. According to the report, "The most plausible explanation of a relationship between DDE and duration of lactation is estrogenicity." While the *p,p′*-DDE isomer which the researchers measured is nonestrogenic and shows no effect on lactation in rats, it is assumed to occur in proportion to another isomer, *o,p*-DDE, a weak but persistent estrogen in several animal models. DDE and other pesticide residues may mimic the activity of natural estrogens, which occur at high levels during pregnancy but fall just after birth to allow lactation. Medically administered estrogens can also decrease or halt lactation.

Gladen emphasizes that although this epidemiological study established a correlation between DDE and shortened lactation, the mechanism for DDE's action is still unknown. Gladen would like to see a good animal model for lactation developed that could be used to test chemicals including DDE. Says Gladen, "We need to understand the underlying mechanism more before we can block DDE's action."

EHPnet

Scientists around the world are piecing together the puzzle of what causes cancer and how it may be treated. OncoLink (URL: http://cancer.med.upenn.edu/), an award-winning World Wide Web site created at the University of Pennsylvania, offers researchers, clinicians, and patients the latest clues to the puzzle. The goal of Oncolink, the first comprehensive multimedia cancer information resource ever placed on the Internet, is to communicate cancer information worldwide.

OncoLink's homepage contains hyperlinks to information on the latest cancer news, cancer-related meetings, peer-reviewed journal articles on cancer, site statistics, and a search function. OncoLink also has a menu hyperlinked to a variety of submenus. Items on the main Oncolink menu include disease-oriented menus, psychosocial support and personal experiences, cancer causes, screening, and prevention; clinical trials, global resources for cancer information, book reviews, and more.The disease-oriented menu features general cancer groupings for hyperlinks to more specific information on particular types of cancer. For example, under the heading "Adult Cancers," there is a heading for leukemia. Under the leukemia heading there are specific hyperlinks for acute lymphocytic leukemia and acute myeloid leukemia. These links then lead to patient information, transplant information, treatment information, diagnosis, and current research information. Users may also search a particular topic or field of interest.



Helana, age 13

The bulk of research information is found under the cancer causes, screening, and prevention menu and the global resources menu. From the cancer causes menu, users may link to an environmental factors and causes submenu. This submenu offers hyperlinks to information on topics such as lung cancer and radon, DDT and breast cancer, electromagnetic fields and cancer, and risk assessment. The global resources menu offers links including hospitals, universities, institutes, associations, and government sites related to cancer including the National Cancer Institute's international Cancer Information Center and the EPA.

Since its inception, OncoLink has been accessed over three and a half million times from around the world. OncoLink was awarded the International "Best of the Web '94" Award and was a 1995 finalist in the National Information Infrastructure Awards.

Mining the Radon Studies

An extensive analysis of 11 studies of radon-exposed miners shows that radon exposure in U.S. homes may account for as many as 14,400 lung cancer deaths a year, about 10% of American lung cancer victims. Residential exposure to radon, an odorless, invisible gas emitted by the decay of uranium in the earth's crust which can accumulate in enclosed areas, has been identified as the second leading cause of lung cancer in the United States. Because radon occurs naturally, exposure cannot be totally eliminated. However, some 2,000–4,000 U.S. lung cancer deaths per year may be prevented if all homes with radon levels exceeding the EPA's action level were repaired, the analysis estimates. A summary of the analysis was published in the June 7 issue of the *Journal of the National Cancer Institute.*

The joint analysis, which pooled original data on some 65,000 miners in China, Canada, Europe, and the United States, confirms the findings of an earlier National Academy of Sciences BEIR (Biological Effects of Ionizing Radon) IV report based on 360 lung cancer deaths among 2,700 miners. The BEIR IV report helped form the basis for the EPA's recommendations that every U.S. home be tested for radon and that homes with levels above 4 picocuries per liter (pCi/l) be repaired. The EPA estimates that some 6 million homes will have radon levels at or above the 4 pCi/l action level.

"This study confirms that radon is a serious public health problem, as EPA, the Surgeon General, [the Department of] Health and Human Services, and many others have been saying," says David Rowson, director of the EPA's radon division. "It adds robustness to the data we have supporting our recommendations.