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The Ribbon

A Newsletter of the Cornell University
Program on Breast Cancer and
Environmental Risk Factors
in New York State



Volume 1, Number 2, Fall 1996

REDUCING THE RISK FOR BREAST CANCER

The Program on Breast Cancer and Environmental Risk Factors in New York State (BCERF) has begun critically evaluating the available scientific information on breast cancer and environmental risk factors. Now BCERF is taking this information and using it to produce unique informational and educational programs and materials which will help the people of New York State reduce their risk of developing breast cancer. In this **Campaign for Risk Reduction** we use innovative strategies aimed at both policy and individual decision-making, and a variety of high-tech and traditional methods of communication and training, working with organizations statewide.

Why Risk Reduction?

This Campaign for Risk Reduction complements the many on-going efforts to raise awareness about breast cancer and encourage early detection. These initiatives have made tremendous progress toward directing attention to the disease, increasing self examination and early screening, and furthering research efforts aimed at improved early detection and treatment.

The question remains, "What can we do to prevent breast cancer from occurring in the first place?" There is currently no concerted national or state-wide effort to do anything before a lump in the breast is discovered by a woman herself or through screening. While we do not have enough information or the means to prevent breast cancer, we do have enough information to reduce risk.

As more and more is understood about the role of environmental risk factors in this complex disease — especially pesticides, diet and environmental contaminants — and the implications for different populations, BCERF brings these findings to concerned people statewide. These are the areas in which we can make changes in our individual decisions and behaviors, and in our environmental and health policies. BCERF is committed to helping women help themselves and others to reduce risk. The Campaign for Risk Reduction will empower women to take more of a role in reducing the risk they face.

Science-based Information to Reduce Risk

Concerned citizens and policy-makers do not typically have access to information that responds to their questions about breast cancer and environmental risk. Further, breast cancer information that people do encounter through the mass media or other sources is too often confusing, misleading, or controversial.

BCERF's approach to providing information and education begins to fill this void in available resources, and helps people make sense of what they hear and read elsewhere about the risk factors for breast cancer. (For a listing of the known and potential risk factors related to breast cancer, see the first issue of *The Ribbon*, Volume 1:1, Spring 1996.) Science-based, yet accessible materials on breast cancer and environmental risk can help the public better use the information they encounter day-to-day.

We are beginning to assist in this way by developing fact sheets on possible environmental risk factors. In a series of fact sheets on pesticides, we address the question: what is the scientific evidence for a role of selected pesticides in the development of breast cancer? The public is hearing more and more about "estrogen mimics." Are pesticides containing these chemicals involved in the development of breast cancers? BCERF's first in a series of fact sheets on thirty selected priority pesticides addresses the now-banned pesticide DDT. The fact sheet uses the available scientific research to respond to the question of whether the past heavy use of this pesticide may have contributed to present breast cancer rates. (Please see BCERF Fact Sheet #2 for this discussion of DDT and the risk of breast cancer.) The next in this series, available this Fall, addresses the triazine pesticides atrazine, simazine and cyanazine.

In addition to providing this information on selected agricultural pesticides, BCERF will provide guidance on the wise use of household and garden chemicals and pesticides. BCERF's approach with regard to all of these chemicals is to offer direction on both broader community and/or policy issues, and everyday changes which concerned people can make to reduce risk.

The next edition of "The Ribbon" will begin a series on Understanding Risk Factors for Breast Cancer. The first in this series will address what is meant by "established risk factors."

Through nutrition fact sheets, BCERF will provide information on many of the diet-related factors for which there is evidence of a role in breast cancer. BCERF's first nutrition fact sheet explores the role of "phytoestrogens" (naturally occurring estrogens in plant foods) in reducing breast cancer risk. Coming fact sheets will look at the role of early childhood diet and breast cancer, the controversy around dietary fat and breast cancer, and fruit and vegetable intake and the risk of breast cancer. Other topics will include the relationships between exercise, body weight, and body fat and breast cancer. All of these fact sheets will be based on critical evaluations of the related scientific research to date; BCERF's "translation" of the scientific information means the public can better take advantage of what is already known, and apply that to individual and family food choices, nutrition education, and meal programs.

What do the latest breast cancer studies mean to the women of New York State? What studies are in progress, and what kinds of information will they provide? How can we better understand breast cancer rates? BCERF

will provide educational tools to help answer these kinds of questions. In this way, BCERF helps to make the most of what is known about breast cancer risk. Concerned citizens and policy-makers will better understand their own and their communities' risks, and then can make individual changes and contribute to informed policy-making.

Innovative Ways to Communicate, Educate and Train

BCERF's Campaign for Risk Reduction responds to this need for information and is designed to do so in a way that reaches all sectors of the state's diverse population. BCERF is using a range of traditional and high-tech methods of communication and training to accomplish this goal.

The **fact sheets** described above are an example of a traditional way to communicate health information. BCERF's printed materials are unique in the way they are produced and the networks through which they are distributed. BCERF works closely with many interested organizations statewide. Printed materials are "user-reviewed" to make sure they are not only scientifically sound, but also that the topic, the language, and the level at which they are written are all appropriate for the people most likely to use them. Fact sheets will be available directly from BCERF, and through Cornell Cooperative Extension Associations in each county, a network of breast cancer advocacy groups, Farm Bureau offices, and other organizations.

In order for communities and individuals to get the most out of BCERF materials, we will conduct "**train-the-trainer**" programs statewide. The result will be knowledgeable resource people available to answer questions and conduct community programs on risk reduction. As soon as funding permits, we will have video conferencing into each county, creating an interactive setting for concerned individuals, health professionals, and community leaders to discuss risk reduction.

For those who have access to the World Wide Web, the **BCERF web site** contains information generated by BCERF, as well as direct links to other resources (See "What's New on the Web.") An important benefit of this BCERF project is the "fast-tracking" of information between science and health professionals, enabling them to better contribute to risk reduction activities.

When funding permits, BCERF will add a toll-free telephone information/resource helpline, as well as an internet address to respond to an individual's specific questions about breast cancer risk.



This design is based on an original paper-cut. The artist, Suzanne Snedeker, generously donated the use of the graphic in the hope that others would also donate their time, talent, and resources to the Campaign for Breast Cancer Risk Reduction.

Working with Mothers and Daughters: An Intergenerational Approach

As part of the Campaign for Risk Reduction, BCERF is planning to work directly with underserved populations, and through existing community groups and professional organizations. For these projects, we have adopted an "intergenerational" approach. Breast Cancer risk reduction plays an important role at every life stage, and the involvement of mothers, daughters, and grandmothers

is needed to provide the role models necessary to support healthful behaviors, and to promote community health policies that could reduce environmental risks.

There are many unknowns with regard to the latency period of cancer (how long it takes for a cancer to develop), so every age is potentially important for risk reduction. Researchers are, however, gathering more evidence about certain vulnerable periods. There is growing evidence that breast cancer risk is greatly influenced by events and exposures in childhood and young adulthood.

Intervention in childhood to prevent cancer later in life is a very new approach. What is clear though, is that children and teenagers can only make health behavior changes that are reinforced by their families, schools, and communities. An intergenerational risk reduction strategy takes into account all of these influences.

Moving Toward Risk Reduction

We believe that breast cancer can be reduced and that information and education are one step in that direction. Action by women themselves and by community leaders and policy makers can lead to individual and community changes that will reduce the number of women in New York State who get breast cancer. This will not happen overnight since it can take from 3-30 years after exposure for breast cancer to develop. We must start now to see that reduction in future years.

To receive BCERF Fact Sheets mentioned in this article, please send in the tear-sheet included in this issue of "The Ribbon."

BCERF and Cornell Cooperative Extension: A Critical Link

A tremendous strength of the Cornell Program on Breast Cancer and Environmental Risk Factors in NYS (BCERF) is its involvement with Cornell Cooperative Extension (CCE). CCE, with its commitment to providing New Yorkers of all backgrounds with practical, accessible research-based knowledge, is a fitting partner for BCERF's goals. Both BCERF and CCE rely on the work of a broad range of Cornell researchers, and have the responsibility of taking that knowledge and "putting it to work" in the lives of New Yorkers.

The work of mobilizing a statewide educational effort on breast cancer and environmental risk factors necessarily breaks new ground. Tapping into the established strengths and resources of CCE educators and programs provides BCERF with a ready infrastructure for carrying out many of its objectives.

BCERF's partnership with CCE includes many opportunities for coordination with CCE's vast statewide network of over 800 educators in over 60 County Associations and New York City offices. These locally-based organizations are rooted in the diverse communities that characterize New York State.

Education to Confront Critical Issues

CCE strives to provide education that individuals and policy makers can use to deal with the critical issues of an increasingly complex society. Breast cancer and its possible relationship to environmental risks factors has without doubt become one of New York State's critical issues. And like many of the other issues CCE deals with, it is one in which both individuals and policy makers

have a role to play in advancing understanding, and formulating and carrying out appropriate strategies.

However, even more so than with other critical issues, there is much that research has not yet determined about the relationship of breast cancer and environmental risk factors. BCERF is committed to clearly communicating with the public the many research gaps in this area, while at the same time, providing the tools to understand what is known. For example, BCERF's educational strategy includes providing information that helps people understand cancer incidence and mortality rates, as well as the whole concept of risk.

R. David Smith, the Associate Director of CCE, finds this approach to be very compatible with CCE's promotion of informed decision-making. Involved from BCERF's beginning, Smith is very enthusiastic about CCE applying its strengths to what is definitely "new territory." "These issues are complicated and come to us with a lot of unknowns — but that is the environment in which we are making decisions. We can help individuals and policy makers wade through, and sort out, the information that is available."

Working Together in Many Areas: Nutrition, Health & Safety, Agriculture and Environment

BCERF's work clearly encompasses many of the areas which CCE currently prioritizes. Because "environmental risk factors" include anything extrinsic to (from outside) the individual, BCERF is ultimately dealing with diet, pesticide exposure, industrial chemical exposure, household chemical exposure, alcohol use, certain drugs therapies, and other exposures. There are clear links with CCE's nutrition, health and safety programs, agriculture programs and environment programs.

CCE's nutrition, health and safety programs are committed to providing reliable, accurate and up-to-date information to help people make informed decisions about food that promote health and well-being. With regard to risk reduction for breast cancer, many of the relationships between diet and breast cancer are just beginning to be understood. CCE has an established track record of providing education that helps people make

sense of often confusing and controversial public information about diet and health. BCERF materials on diet and breast cancer, which will carefully define terms, weigh evidence, and offer guidance, are appropriately distributed within this context.

"These issues are complicated and come to us with a lot of unknowns — but that is the environment in which we are making decisions. We can help individuals and policy makers wade through, and sort out, the information that is available."

*R. David Smith
Associate Director,
Cornell Cooperative Extension*

The balance of a strong NYS agricultural industry and a clean, safe environment is sought throughout CCE agriculture and environment programs. CCE educational programs, such as Integrated Pest Management (IPM), encourage a responsible use of pesticides and the use of alternative pest management strategies.

An initial focus of BCERF is to address the question: what is the scientific evidence for

a role of pesticides in the development of breast cancer? As this question is being answered, there are possible implications for pesticide use policies and practices. Barbara Bellows, who coordinates the CCE Agricultural Environmental Planning Outreach Program, describes what CCE and BCERF together can do to address this possible impact: "A combination of quality technical information, outreach activities, and proactive dialogue may help identify technologies and management practices that will enhance the safety of farming while maintaining profitability."

On Long Island, where questions about historical and current pesticide use and elevated breast cancer rates have received a lot of attention, extension educators are already involved in responding to these concerns. William Sanok, CCE Educator in Suffolk County, says that:



**Cornell
Cooperative
Extension**
*Helping You
Put Knowledge
to Work*

"Unquestionably, if there is any connection between pesticide exposure and health, the general public has a need and right to know. Pesticide applicators are especially interested in the issue because of the potential effect on themselves, their families, and their neighbors. We in CCE have an

opportunity and a challenge to help our residents understand and interpret the results of the evolving research, and how to look at and deal with known risk factors."

Community-based Information for New York State Citizens

Sanok, who has also been an active participant in the BCERF Ad Hoc Discussion Group, emphasizes the importance of working "... with all stakeholders, including breast cancer coalitions, farmers, other pesticide users, volunteers, elected officials, and community leaders." He has been instrumental in bringing these groups into dialogue in Suffolk County.

In these ways, CCE Educators are essential in helping to assess needs for the development of appropriate BCERF educational programs and materials statewide. A network of CCE Educators around the state will be trained by BCERF to serve as local resource people on breast cancer and environmental risk factors. CCE Associations will be participating in pilot programs to test educational and community strategies for breast cancer risk reduction.

CCE Associate Director Smith also highlights CCE's "...tremendous capability to partner with other local organizations. CCE Associations are community-based organizations in every County of NYS and in every borough of New York City. It is the philosophy of CCE to address people at the local level; we take the audience where the audience is, and work with it." This approach will be very appropriate as BCERF works on breast cancer and environmental risk concerns throughout NYS, finding many issues and questions particular to specific regions, as well as concerns common to the state as a whole.

Smith looks forward to the training BCERF will offer to CCE Educators, "... giving Educators the tools they need — and the different perspectives — to provide the community-based education and learning that characterizes CCE programs."

New Health Study of Women Residing on Farms in New York State

Researchers at the New York State Department of Health's Center for Environmental Health have begun a new research project titled "Retrospective Cohort Study of Mortality and Cancer Incidence among Women Residing on Farms in New York State." This project seeks to find out whether women who have lived on farms experience different rates of various health problems, including cancer, than other non-farm women living nearby.

Background

As a result of agricultural activities, farmers and their families may potentially be exposed to a number of hazardous agents such as pesticides, solvents, fertilizers, motor vehicle fuels, lubricants, dusts, infectious agents of animal origin, manure-gases, molds, antibiotics, and fungi. While studies show male farmers as a group to be more healthy than the general population, male farmers appear to be at increased risk for several cancers including leukemia, Hodgkin's disease, non-Hodgkin's lymphoma, multiple myeloma, and cancers of the lip, stomach, skin, prostate, brain, and connective tissue. Knowledge of cancer incidence among women farmers, farmworkers, or farm residents is much more limited. Most studies have focused on men, with women generally being excluded because of small numbers or presumed low exposures.

Study Methods

In a retrospective cohort study, a specific group of study subjects from a past time period is identified based on similar potential exposures or other risk factors. In this case, women who resided on farms may have experienced greater exposures to pesticides than the general population because of participation in farm work involving pesticide application, or indirectly, through handling other farm family members' clothing, for example. Names and birth dates of members of the cohort are used to follow cohort members over a period of years, using a variety of sources of data, to identify specific health outcomes for the individuals in the group. The study will use existing data and records; no direct contact with study subjects will be made.

The study cohort is being assembled using records of current and former membership in the New York State Farm Bureau. Females who were at least 30 years of age, and who were farmers or adult relatives of farmers who were Farm Bureau members for at least one year during the years 1980 to 1985 are eligible to be in the cohort. The first step in this research project is to accurately and completely identify the female members of the farming households. Since the Farm Bureau membership list most often includes only a male name, this male name and address are used to search for the female household

members' names. Computerized records for driver's licenses and vehicle registrations from the Department of Motor Vehicles as well as marriage licenses, birth certificates and phone directories are being used to identify female family members at the farm addresses.

Once the names and birth dates for the cohort members are known, this information will be matched to death records and cancer reports to determine the disease experience of the cohort. The cohort, which is expected to number between 10,000 and 15,000 women, will be followed for twelve years, 1980 to 1992, to evaluate whether the rates for various causes of death and the rates for various cancers, including breast cancer, differ from expected rates for this group of women.

Goals

The retrospective cohort methods used in this study are frequently used to study risk for disease among occupational groups. This study design efficiently uses existing computerized information and can be completed fairly quickly. The target for completion is January 1998, two years from its inception.

An important limitation of the study design is that there is no direct measurement or other assessment of pesticide or other exposures on individual farms. Since the health outcomes evaluated in this study generally take many years to develop, they would potentially be related to

exposures which occurred many years ago and which can no longer be measured. Some descriptive information about historical pesticide use may be available for suggesting potential past exposures. If elevated risks for specific health outcomes are found in this cohort, this type of descriptive data will be examined to see if it points to possible links between potential historical exposures to pesticides and the elevated risk. If the research suggests such links, further steps will be taken to identify appropriate activities for reduction of such exposures.

The study will provide information which may be useful for women with potential agricultural exposures. If the research points to elevated risks for specific causes of death or cancers among women residing on farms, this information will be disseminated to the farm community and medical community in order to encourage appropriate health screening practices. This research project's findings will be of interest to the larger community as well. Because such studies of female populations with potential agricultural exposures are few in number, this research project may aid in bridging important gaps in our knowledge of how female cancers and other health problems vary among groups with different potential exposures. Developing this type of information is an important first step in identifying directions for future research.

Betsy Lewis-Michl, PhD is a Research Scientist at the NYSDOH Bureau of Environmental and Occupational Epidemiology, and a participant in the BCERF Ad Hoc Discussion Group.

New York State Pesticide Recordkeeping Legislation Passed

Features of the bill:

◆ Creates a Health Research Science Board with duties that include reviewing requests for use of pesticide information in health-related research projects

◆ Creates an individual and corporate income tax check-off for breast cancer research and education

◆ Requires development, with Cornell University, of a Pesticide Sales and Use Computer Data Base

◆ Recordkeeping and reporting requirements include annual reports from:

- manufacturers and importers of all sales of restricted use pesticides
- commercial applicators of pesticides

- those who sell restricted or general use pesticides for agricultural use

All private applicators are required to maintain records on restricted use pesticides

◆ Allows health researchers and members of the public to have access to pesticide use information

◆ Requires implementation of a Water Quality Monitoring program for pesticides

◆ Requires a Department of Environmental Conservation (DEC) annual report summarizing pesticide information

◆ Requires a Department of Health (DOH) report every two years reviewing the work of the Health Research Science Board

Ad Hoc Discussion Group

"Learning Together"

The June 21, 1996 Ad Hoc Discussion Group meeting drew over 40 participants from around NYS. The participants expanded their knowledge in several important areas and discussed BCERF's current work and direction.

Maria Schymura, Director of the NYS Department of Health (DOH) Cancer Registry, provided the group with information about the structure, strengths and limitations of the Registry. She distributed data on breast cancer incidence and mortality rates, and offered guidelines for interpretation of these data.

Betsy Lewis-Michl, of the NYS DOH Bureau of Environmental and Occupational Epidemiology, gave an update on the mortality and cancer incidence study of NYS farm women (see related article). This study responds to a need identified by the Ad Hoc Discussion Group.

Bill Smith, of the Cornell Pesticide Management Education Program, provided an update on the development of pesticide-use database software, done in consultation with the NYS Department of Environmental Conservation (DEC). He also discussed

California's Full-Use Reporting System, and a lively debate followed on feasibility, cost and usefulness for health research of this kind of system.

BCERF staff presented examples of recent accomplishments and sought the group's feedback in these areas. Suzanne Snedeker gave a demonstration of BCERF's World Wide Web page (see What's New "On the Web"). She and Carol Devine then turned to the group for a review/critique of the first two BCERF Fact Sheets. The group responded positively to the fact sheets, offering many useful suggestions.

The next Ad Hoc Discussion Group meeting will take place on September 25, 1996 at Center for Environmental Health at the NYS DOH in Albany. Ad Hoc Discussion Group meetings are open to any and all stakeholders to come together to discuss issues related to breast cancer and environmental risk factors. On the agenda for the next meeting are: an update on the pesticide use software development; BCERF progress; and at the group's request, a discussion of new and planned research efforts.

Please mark the appropriate request, print your name and address and mail to:

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Program on Breast Cancer and
Environmental Risk Factors in
New York State

110 Rice Hall, Cornell University
Ithaca, NY 14853-5601
Phone: (607) 254-2893
FAX: (607) 255-0238
E-Mail: breastcancer@cornell.edu.

—add me to your mailing list
—send me a copy of the BCERF Information Sheet

PLEASE SEND ME THE FOLLOWING FACT SHEETS:

—DDT, DDE and the Risk of Breast Cancer
__Phytoestrogens and Breast Cancer: Another Reason to Eat
Your Vegetables

PLEASE SEND ME THE FOLLOWING FACT SHEETS AS
THEY BECOME AVAILABLE:

__Triazine Pesticides
__Childhood Diet
__Understanding Established Risk Factors
__Understanding Breast Cancer Statistics
__Safe Use of Household Chemicals

NAME _____

Address _____

Telephone _____

Fax _____

Email _____

WHAT'S NEW "ON THE WEB"

<http://www.cfe.cornell.edu/bcerf/>

Three things to look for on our web page—

1) A new category on the main BCERF home page — [Listing of Bibliographies on Environmental Risk Factors and Breast Cancer](#) includes:

- ◇ Recent Review Articles on Environmental Risk Factors and Breast Cancer
- ◇ Phytoestrogen Bibliography
- ◇ DDT and DDE and Breast Cancer

2) Updated [Upcoming Conferences and Workshops](#) section.

3) Reorganization of the [Hyperlinks to Related Web Sites](#) web page. This page now has a menu of main topics to choose from, including THREE NEW HyperLinks:

- ◇ Breast Cancer Support, Advocacy and Networking Groups
- ◇ Diet and Breast Cancer
- ◇ Information for Researchers

I have made a lot of new additions to the other categories of hyperlinks to related web sites. These links are a powerful resource for both consumers and researchers, so if you haven't browsed this part of our web page, you are missing a wealth of information!!

We welcome your comments on these new additions to the BCERF web page— send us your thoughts via the "breastcancer@cornell.edu" email address.

by Suz Snedeker, BCERF "Webmaster"

The Ribbon is published by the Cornell Program on Breast Cancer and Environmental Risk Factors in New York State. Comments are welcome; contact the Editor

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