

LANGFORD
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CONNECTIONS

WOMEN'S NETWORK ON HEALTH & THE ENVIRONMENT

Volume 1 • Issue #6

ACTION FOR PREVENTION

August, 1995

So, where were we?

Did we really say something in the last issue about **Lyn McLeod** being a shoo-in as Premier of Ontari-ari-ari-o?

Instead, it's **Premier Mike**, who insists he'll be a man of his word – or resign. (Just when you hoped for someone who would ditch a whole slew of election promises.) At least the issues will be clear, making it easier to mount an effective opposition. However, it looks like we've got plenty of work cut out for us.

Mr. Harris's choice for Secretary of the Cabinet, his top civil servant, is none other than **Rita Burak**. When she was Deputy Minister for the provincial Ministry of Agriculture, Food and Rural Affairs, she was instrumental in having several chemicals **removed** from the list of substances Ontario wanted banned or phased out. That included several chemicals known to be carcinogenic or endocrin disrupters (see Beverly Thorpe's article on page 4), such as endosulfan, trifluralin and atrazine, among others. As an important part of the Harris cabinet, Ms. Burak may prove to be a formidable obstacle to reducing toxic chemicals in the environment.

On the other hand, the Honourable **Brenda Elliott** is our new Minister of the Environment and Energy. Last time we saw Brenda, she was running an environmental store/vegetarian cafe in Guelph, where she – among other efforts to promote sustainability – enthusiastically welcomed The WEED Foundation's Stop The Whitewash campaign, stocking both the book *Whitewash*, as well as chlorine-free and reusable menstrual products. (Doesn't sound like your typical Progressive Conservative now does she?) The new minister, a rookie MPP, was also a speaker at WEED's conference, *Women and the Environment: Charting a New Environmental Course*, held May 1990 at the University of Toronto.

It remains to be seen if Brenda can stick to her principles and act accordingly. Or if she can even make her presence felt in a
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THAT OL' MONEY THING Honey, can you spare us a \$20?



Put very bluntly, we're running out of funds. Our wish was to never have to charge for our newsletter, *Connections*, and we don't want to start now.

But both government and foundation funding are on the wane, so here we are, suggesting a **voluntary subscription** of \$20 for the next six issues (and hey, we won't say no to \$100 or more. Lottery winnings also welcome!) All contributions of \$20.00 or more are eligible for tax receipts.

Or send what you can; even \$5 would help.

And if you really can't afford to send anything, that's definitely okay too. We know there are many women working on environment/health issues who forego income to do this work, and we want you to keep getting this little rag if you so wish.

But, you may not want to stay on our mailing list, for whatever reason. And if that's the case, please let us know. We're up around 1,000 circulation at this point, so if we can save a few dollars in printing and postage, it all helps. Call 416-516-2600 to have your name taken off the list. Fax is 416-531-6214. Or use the enclosed envelope.

P.S. To those who have already made a generous donation, kindly disregard this message. (And many thanks!)

736 Bathurst Street, Toronto ON M5S 2R4 Phone: (416) 516-2600 • Fax: (416) 531-6214 (WEED)

WNH&E is a project of the Women and Environments Education and Development (WEED) Foundation

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provincial cabinet that will be heavily dominated by Mike Harris, his cronies (including Rita Burak) and his agenda. We're rooting for Brenda (in a government that offers desperately little for environment/health activists to root for), but it will be very tough going.

Those who wish to communicate with our new Environment and Energy Minister, especially about crucial issues such as 'garbage' incineration (see page 7) can write in care of MOEE at 135 St. Clair Avenue West, Toronto, M4Y 1P5. Phone (416) 323-4360, or fax (416) 323-4682. Rita Burak is located at Room 4340, Whitney Block, 99 Wellesley Street West, ON. M7A 1A1. Phone (416) 325-7641.

NUCLEAR WASTE IN YOUR BACKYARD?

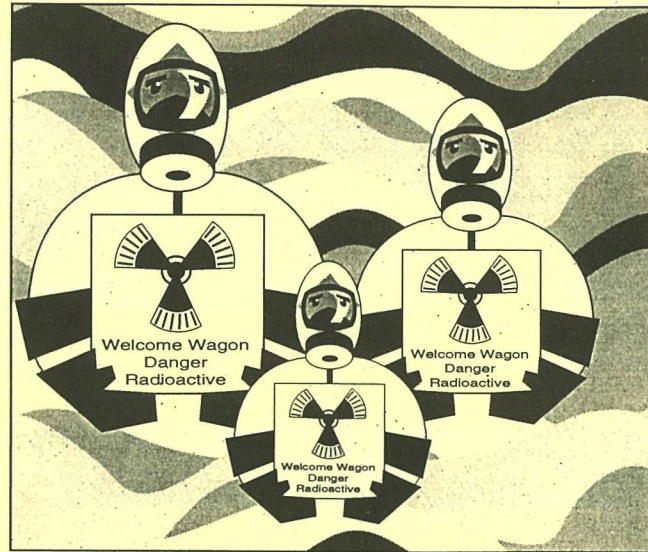
by Andrea Ritchie

Atomic Energy of Canada Limited (AECL), a crown corporation, is currently promoting a proposal to bury nuclear waste in the Canadian Shield -- a geological rock formation covering most of Saskatchewan, Manitoba, Ontario and Quebec -- as a "permanent" solution to our ever-increasing problem of nuclear waste disposal. Because no specific site is being proposed, the federal government is being asked to approve a "concept" for burial in a nonexistent, hypothetical community.

If Canada's nuclear waste isn't going to be buried in your community, it could well be transported through it. Regardless of where the waste is finally deposited, it will be transported from New Brunswick, Quebec and Ontario to the repository, travelling through hundreds of communities on the way, either by road, rail, air or water.

If all this isn't frightening enough, Clause 501 of NAFTA could be interpreted to mean that Canada cannot refuse nuclear waste from the US or Mexico. We could become the nuclear waste dump of North America.

What are the possible consequences of such a proposal? Studies indicate that radioactivity has devastating impacts on women's health, including an increased incidence of breast cancer, cancers of the reproductive tract, leukemia, birth defects, and impacts our immune systems. **Potential releases from the site itself and from waste being transported to the site pose a tremendous health hazard to us and to future generations.**



There has never been a national debate on energy policy which involved all groups, including marginalized people such as women, Aboriginal peoples, workers, low income people and people of colour -- and it seems there won't be one now. Nuclear power benefits few, while costing the rest of us -- and future generations -- heavily.

The National Action Committee on the Status of Women (NAC) has a clear message to the AECL with regard to this proposal: stop producing toxic nuclear waste, store what we have in relatively safe, monitored and retrievable locations that don't involve waste transport, and focus Canada's energy policy on developing sustainable, safe, job-intensive, and waste-free energy production, while phasing out nuclear power.

JOIN NAC IN FIGHTING BACK

... AND MAKE SURE THIS "CONCEPT" NEVER MAKES IT OFF THE DRAWING BOARD!

Here's what you can do:

- 1) Write your MP, MPP and Minister of the Environment Sheila Copps and state your opposition to the transport and "permanent disposal" of nuclear waste in Canada.
- 2) Lobby your municipal government to pass a by-law prohibiting the transport and disposal of radioactive waste in your community.
3. Lobby your provincial government to pass legislation banning all radioactive waste disposal in your province.
4. Join the *Campaign for Nuclear Phaseout* -- a national organization calling for the phase out of nuclear power generation, funding for the nuclear industry, nuclear exports, and uranium mining. Call Kirsten Osling in Ottawa at (613) 789-3634 for more information.

BACKGROUND TO NUCLEAR WASTE DISPOSAL

In late 1994, the Canadian Environmental Assessment Agency (CEAA) -- a department that ultimately reports to Environment Canada -- began reviewing Atomic Energy of Canada Limited's proposal to bury nuclear waste under the Canadian Shield. While the Agency's nine-month review process began then, groups and individuals who were critical of this plan did not receive any intervenor funding until the end of May of this year. At that time, 25 groups shared approximately \$211,000 to prepare written submissions to the Assessment Agency.

In addition to NAC, groups receiving funding included the Aboriginal Rights Commission, McMaster Institute for Energy Studies, La ligue des femmes du Quebec, the Campaign for Nuclear Phaseout, the Ontario Native Alliance and the Ontario Association for Environmental Ethics, among others.

On August 8, CEAA began the process of reviewing the submissions, including the Environmental Assessment Statement from AECL as well as all opposing opinions. It is expected that public hearings will begin in the late fall -- unless the Agency requests that AECL go back to the drawing board and bring forth a new proposal. We'll keep you informed.

If you wish to receive a copy of AECL's proposal, phone (613) 237-3270; information regarding public hearings is available from Ghislane Kerry of CEAA at (613) 953-0179 (collect) or fax (613) 994-1469. NAC's submission is available from its Toronto office at 203-234 Eglinton Avenue East, Toronto, Ontario M4P 1K5 or phone (416) 932-1718. The **Campaign for Nuclear Phaseout** has prepared a summary of all the opposing submissions. To receive a copy, contact Kristen Osling at 1 Nicholas Street, Suite #620, Ottawa, Ontario K1N 7B7 or phone (613) 789-3634.

LINKS TO LUPUS

by Jennifer Lawrence

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that is most commonly known as **lupus**. Although you rarely hear much about lupus, it affects over 200,000 Canadians, striking women eight to ten times more often than men. Lupus usually appears in women between the ages of 20-40 or during their childbearing years.

When a person has lupus her immune system (which normally protects us from germs, viruses and bacteria) can't distinguish between the body's own tissue and foreign matter. As a result, the immune system produces antibodies that react with cells in human tissue, causing a chain of events that results in chronic inflammation. Any tissue of the body is susceptible to attack, including the skin, muscles, joints, blood and blood vessels, lungs, heart, kidneys, and/or the brain.

The most common symptoms include achy joints, fever over 100 degrees Fahrenheit, arthritis, skin rashes, anemia, pleurisy (an inflammation of the tissues surrounding the heart), photosensitivity, hair loss, Raynaud's phenomenon (white or blue fingers and/or toes), seizures, and mouth ulcers. Most patients display only a few of these symptoms, making lupus difficult to diagnose.

After speaking to a couple of lupus organizations, it became evident that very little research has been done with respect to environmental links to lupus. The Ontario Lupus Association was only able to find one related article titled "Environmental Factors and Lupus" by Arthur M. Krieg, M.D. This article outlines some possible links:

* **Silicone Polymers:** found in breast implants.

* **Hormones:** a Lupus Foundation of Ontario pamphlet states that "There is a definite link between lupus and certain hormones, evidenced by the disease's preference for women of child-bearing age, but the relationship is not completely understood."

* **Hydrazines:** believed to be responsible for many drug-induced cases of lupus, hydrazines are found in mushrooms, food dyes (tartrazine), tobacco smoke, cooked meats and fatty foods. Hair dyes also contain high levels of hydrazine which can be absorbed through the scalp.

* **Psoralens:** these are chemicals that increase photosensitivity in patients who are already sun-sensitive. Psoralens are found in celery, parsnips and figs;

* **L-canavanine:** related to hydrazine, L-canavanine is found in alfalfa seeds, sprouts and legumes.

This is not to suggest that eating the above-mentioned foods will cause lupus. This list simply indicates those chemicals, and foods in which these chemicals are found in very limited amounts, which appear to have a link to the emergence of lupus. It is evident that little is known about environmental links to lupus; like cancer, the main focus seems to be treatment and cure rather than prevention.

If you have any additional information about the links between the environment and lupus, please write to Jennifer c/o the WEED Foundation. For a copy of the article by Dr. Krieg, contact the Ontario Lupus Association in Toronto at (416) 967-1414.

rBGH UPDATE

According to Alex Boston of the Ottawa-based **Council of Canadians (COC)**, Parliament Hill was in an uproar in June over the issue of rBGH, the hormone designed to increase milk production in dairy cows. Many parliamentarians' phones rang off the hook and their fax machines literally ran day and night. The COC even convinced a Vancouver chain of vegetarian restaurants to operate toll-free phone lines to Hedy Fry, assistant to Health Minister Diane Marleau. Customers lined up for hours, Alex reports, to inundate Ms. Marleau's office with calls.

The House of Commons Standing Committee on Health recently recommended that the federal government legislate a two-year moratorium on rBGH in order to study possible impacts on human health. This is certainly good news, but last spring the Standing Committee on Agriculture also recommended a legislated moratorium to study the economic impact on farmers and further examine the evidence regarding the effect on animal health. It didn't happen then and it might not happen now.

But this has certainly been a landmark event for many activists. The coalition opposed to rBGH is not only more diverse than usual -- everyone from farmers, processors, feminists, health activists, nurses unions and other national labour organizations, students, environmentalists, animal rights activists and church councils have opposed rBGH -- the campaign has drawn together almost 350 groups from across the entire country.

No decision has yet been made by Mr. Chretien's government, but the general feeling among M.P.'s and civil servants is that the heat created by the protest may put rBGH into a kind of permanent legislative limbo. We hope so.



**DON'T STOP LETTING
THE GOVERNMENT KNOW
THAT YOU WANT
rBGH BANNED IN CANADA!**

**Phone, fax or write the Prime Minister and
get in touch with your local M.P.**

Your M.P.'s are back in their constituency offices, for the summer, and you can write to M. Chretien at House of Commons, Ottawa, Ontario K1A 0A6: phone (613) 992-4211, fax (613) 941-6900.

It is important to remember that other biotech products are being considered by various departments at both the federal and provincial levels and one -- Calgene's Flavr Savr Tomato -- has already been approved for sale in Canada. It could be on



our shelves soon, **without labeling to indicate it is a product of genetic engineering.** It will be marketed under the brand name MacGregor, but the only way to be sure you are avoiding it is to not buy any tomatoes coming in from either the U.S. or Mexico altogether.

Other food items are in the works -- everything from genetically engineered canola and corn that can tolerate herbicides to growth hormones for pigs to increase lean meat production -- and biotechnology firms are looking for ways to expand into medicine, pest control, fishing industry and even environmental clean-up. The **Canadian Institute for Environmental Law & Policy (CIELAP)** has just published *The Citizen's Guide to Biotechnology*, which provides a concise (under 100 pages) over-view of the industry in Canada, what we can expect in the near future, and what we can do to influence these decisions.

To obtain the guide, phone Patricia Merriman at (416) 923-3529 or write CIELAP at 517 College Street, Suite #400, Toronto, M6G 4A2. The cost is \$19.99, but for students, poor NGO's (and which of us isn't?), and those ordering two or more copies, the price is \$14.99.



WINE, WOMEN, BREAST CANCER PREVENTION & SONG

A big hug and many thanks to all of those who entertained us at our first WNH&E benefit at Toronto's Harbourfront Centre May 24, including Sandra Steingraber, Vicky Frazier, Marie-Lynn Hammond, Marcia Johnson, Rochelle Stern, Moon Joyce, The Raging Grannies and Sister Decypher. And thanks as well to Dorothy Goldin Rosenberg and Sharyn Inward for being our hosts.

Special thanks are due to Sharyn and a team of dedicated volunteers for organizing the event so well (with so little time and such a small budget!), as well as to Lilian Armstrong, Barbara Amesbury and Linda Rosier, whose financial donations made the event possible. And of course, thanks as well to everyone who came and made the event so successful! Same time, next year?

PESTICIDES UPDATE

by Beverley Thorpe

In July of last year the Women's Network on Health & the Environment held a press conference at Queen's Park denouncing action taken to remove certain pesticides from the *Canada Ontario Agreement* with regard to toxic chemicals. We exposed the fact that the Ontario Ministry for Agriculture, Food and Rural Affairs had bowed to pressure by Dow Elanco and AgCare to scuttle plans to place trifluralin, endosulfan and lindane on the the agreement in order to reduce these emissions into the Great Lakes. We also spoke of the phase-out programs in other European countries and the fact that endosulfan and lindane are both endocrine disrupters. (Endocrine disrupters are those chemicals which mimic natural hormones in animal species, causing DNA dysfunction and resultant reproductive disorders and cancers.) The response at that time was to promise a pesticide review sometime in the future.

That promised review is now under way and, in late May, nine pesticides were named, including amitrol, carbofuran, dicofol, TBT, denitroanilines (trifluralin is in this group), endosulfan, mercury-based fungicides, lindane, and diazinon.

Three have been identified for further review: endosulfan, trifluralin and diazinon. The other six are acknowledged to be a problem and will be targeted for "risk reduction", although this does not necessarily mean reduction in use (hey, nothing

is that simple). "Risk reduction" may mean that these pesticides will be sprayed more specifically, or within certain clearly designated periods of time; these pesticides may be used more carefully but they will not be phased out or banned completely.

What is important to know is that the following five substances from this list of nine are endocrine disrupters as well being toxic, persistent and/or bioaccumulative:

- * dicofol - tree and scrub spray and all-purpose insecticide
- * lindane - dog shampoo, lice shampoo (for humans)**, rose flower dust
- * endosulfan - very common on corn, fruits and other vegetables
- * TBT - anti-fouling agent used on boats, wood preservative
- * mercury - fungicide, in batteries, and used in florescent lights

(**Lindane is a common ingredient in commercial shampoos used to treat head lice. Many children become exposed to head lice through schools and other group activities; children are especially vulnerable to the effects of lindane. Alternative, non-toxic shampoos are available at health food stores.)

It is imperative that people raise the issue of these reproductive contaminants and demand an urgent phase-out program. What is worse, we have just discovered that another strong endocrine disrupter -- nonyl phenols -- are used as a dispersant for many pesticide sprays. Incredible! Not only do we use pesticides that are estrogenic, we use an estrogen-mimic to disperse them.

Other common pesticides that are found to be endocrine disrupters are:

- * atrazine - common on canola and corn
- * 2,4D - Raid weedkiller, Green Cross amine-80
- * permethrin - common household spray
- * synthetic pyrethroids - common household spray

Will the pesticide review include estrogenicity when they examine these pesticides? Not necessarily. They do not want to pre-empt current review programs at the provincial and federal levels, even though these programs may not be comprehensive in their testing nor reduction-focused in their goals. So where does that leave us? We want to ensure that all pesticides are re-tested for estrogenicity in order to fan the flames for an urgent pesticide reduction program.

For more information, contact: Jim Smith, Co-ordinator, Canada-Ontario Agreement Pesticide Review. Telephone (416) 973-9736.

ROUND-UP OF BREAST CANCER RESEARCH

There is plenty of cancer research news; here are just a few. . .

* Dr. Kristan Aronson of Queen's University Department of Community Health in Kingston has received a major research grant in order to study the possible link between organochlorines and breast cancer. The study, funded by the Breast Cancer Research Initiative, will examine tissues samples from 750 women, about one-third with breast cancer. Tissue from these women will be compared with samples taken from women with benign breast disease, and levels of organochlorines will be compared.

While this study is designed to determine if higher levels of organochlorines in breast tissue are associated with higher incidences of breast cancer, it will not tell us if organochlorines are acting synergistically with other substances to cause cancer. It might be an important first step but it is always dangerous to identify a single substance (or even a class of substances, as in this case) and ignore the general effect of the 'toxic soup' that we are living in.

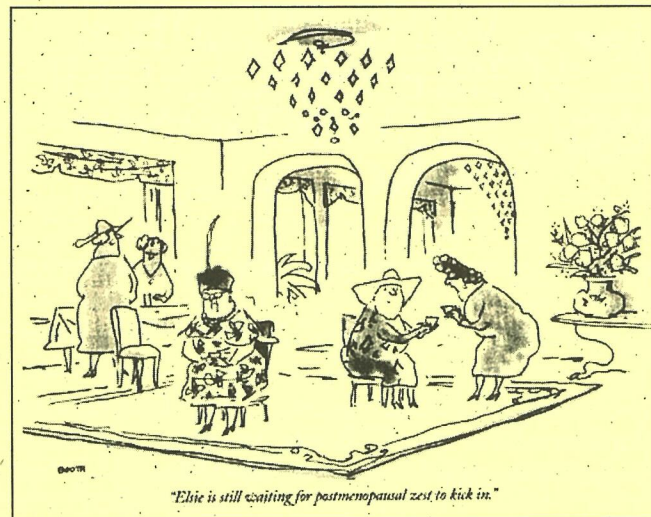
Results from Dr. Aronson's preliminary, pilot study on organochlorines will be announced in November.

* Results from Dr. Norman Boyd's study of breast density and an increased risk of breast cancer was published in May. Women with greater breast density, as measured by a mammogram, were found to be four to six times more likely to develop breast cancer.

Women with greater breast density, as measured by a mammogram, were found to be four to six times more likely to develop breast cancer.

At the present time, however, the researchers involved in this study have not yet discovered what is causing some women's breast to become dense -- that is, to have an increased percentage of fibrous tissue. It may be that some growth factor promotes the development of excess fibrous tissue -- if this factor could be identified, researchers may have a way of preventing some breast cancer. (*Journal of the National Cancer Institute, Vol. 87, No. 9, May 3, 1995*)

* In June, researchers in Alberta began a three-year study examining fitness as a key factor in reducing the risk of breast cancer. This study, which will involve 2,400 women, is



attempting to determine what type, and what levels of physical activity, including occupational and household activities, might reduce the rate of breast cancer. Increased levels of activity reduces the amount of estrogen a woman produces in her system -- and so fitness may play some part in reducing breast cancer. (Editor's note: Could try reducing unnecessary environmental estrogens. . .)

* New research reported in *Cancer* may indicate that environmental toxins, diet and hormones could be inflicting widespread, potentially cancer-causing damage to the DNA in the breast cells of a large percentage of women. Researchers at Seattle, Washington's Pacific Northwest Research Foundation have been using a new technique that allows them to detect and analyze changes in DNA molecules as small as one atom. They report that 59% of the women in their study -- who were all healthy and cancer-free -- had genetic damage that closely paralleled the pattern of damage seen in the DNA of women who had breast cancer -- a strong suggestion that these women are at high risk for developing the disease in the future.

Their theory is that the lymphatic system, which is responsible for clearing various toxins from our bodies, is constricted by bras. The result is a long-term build-up -- and therefore increased exposure -- of breast tissue to toxins.

* Not reported in peer-reviewed literature (so not blessed by the research establishment), but nevertheless intriguing is a book called *Dressed to Kill: The Link Between Breast Cancer and Bras* (published by Avery Publishing Group) which has captured some attention in the press (well, at least Now magazine!). Husband and wife medical researchers Sydney Ross Singer and Soma Grismaijer have interviewed almost 5,000 women about their bra-wearing habits and found that significantly more women with breast cancer reported that their bras always left red marks or otherwise irritated their skin and many wore breast-supporting underwear to bed.

Their theory is that the lymphatic system, which is responsible for clearing various toxins from our bodies, is constricted by bras. The result is a long-term build-up -- and therefore increased exposure -- of breast tissue to toxins.

Their advice? Don't wear bras for more than twelve hours a day -- and get rid of them completely if you can. WNH&E will have a review of the book as well as some information from Toronto researchers in the next issue of *Connections*.



BURNING NEWS #1: INCINERATION BAN ON THE ROPES

Premier Harris ditched the Interim Waste Authority in June (campaign promise!) and the moratorium on incineration may not be far behind. The province has already moved to repeal the incineration ban put in place by the former NDP government. As a first step in lifting the ban, the Ontario government issued two draft regulations at the end of July and placed them on the Environmental Bill of Rights (EBR) Registry for public comment. Anyone wishing to lodge a protest can do so, in writing, before September 14. Address your submission to: EBR Incineration Comments, Science and Technology Branch, Ministry of Environment and Energy, 2 St. Clair Ave. West, 14th Fl, Toronto, M4V 1L5. **Be sure to include the EBR Registry number: RA5E0018.P with your submission.**

The **EBR Registry** containing all the details regarding incineration is posted on an electronic bulletin board; dial **1-800-667-9979** on your modem. If you are not plugged into the information highway at home, your local library will have a computer and will help you locate the Registry, or you can contact **Web/Nirv** in Toronto at **(416) 596-0212**.

You can contact the **Don't Burn Ontario Coalition** members **Paul Muldoon** at **(416) 960-2284**, fax **(416) 960-9392** or **Colleen Cooney** at **(705) 686-7457**. The **Ministry of Environment and Energy** is also making an information package available: in Toronto phone **323-4321** or use their toll-free number **1-800-565-4923** and ask for the EBR Incineration Information package.

BURNING NEWS #2: THE DIOXIN REPORT

Dr. Barry Commoner of the Centre for the Biology of Natural Systems in Queens College in Flushing, New York released a paper in May detailing pollution in the Great Lakes Basin. The report named three highly toxic chemicals -- dioxins, furans and hexachlorobenzenes -- that make their way into the Great Lakes from 1,320 sources in both the U.S. and Canada. These chemicals have been linked to several cancers, including breast cancer and have also been identified as "hormone copycats", contributing to various reproductive disorders in both men and women.

Most of the toxins are airborne **and the greatest source of the contamination is incineration** -- 77% of dioxin and furans are emitted from medical and municipal waste incinerators. (Tell that to Premier Mike!)

Lake Ontario is cited in the report as being the most contaminated of the Great Lakes -- and much of the contamination is from the U.S. -- some from sources as far away as Texas.

It's not only time to let our new Ontario Premier know, that we can't take a backward step with regard to incineration, but also to work more closely with our allies south of the border, and to let our federal government officials know that pollution knows no borders -- we need a cooperative effort to eradicate this method of waste disposal!

To get a copy of Dr. Commoner's report, phone **(718) 670-4180** or send a U.S. \$10 money order to **CBNS, Queens College, Flushing, New York 11367**.

HRT = INCREASED BREAST CANCER RISK

A long-term study conducted at Harvard University's Brigham and Women's Hospital in Boston has concluded that women receiving hormone-replacement therapy for more than five years run a substantially increased risk of developing breast cancer.

The report goes on to state that, within a five-year period the benefits may outweigh the risks: carefully-controlled and monitored use of HRT may reduce the incidence of heart disease, osteoporosis, colon cancer and reduces many painful symptoms associated with menopause. But the use of hormones for six years or more almost **doubles the breast cancer rate** -- in Canada that translates into an increase from 2.5 women per thousand to 4 women per thousand -- an increased risk of 40 percent.

While Dr. Cornelia Baines, an assistant professor at the University of Toronto's Department of Preventive Medicine commented that the increased risk for breast cancer "translates into a very small number of individuals," any increase is unacceptable. And the longer a woman stays on estrogen, the higher her risks for fatal ovarian cancer as well: an increased risk of 40% after six years jumps to a 70% increase after 11 years.

Where in all this debate about the risks/benefits of HRT is some good, common sense information about healthy diets, lots of exercise, natural remedies -- and skip the expensive drugs altogether!

Further information can be obtained from *Time Magazine* in the June 26th issue, or from the *New England Journal of Medicine* for that same week.

CANCER TREATMENT AS FRIENDLY FIRE

by Maureen Press-Merkur

"Cancer is a civil war raging within the body. When the malignant forces overwhelm normal tissue, reinforcements are required"

In language reminiscent of the Pentagon, two American researchers describe the effects of cancer treatment as "friendly fire" which "occasionally goes too far; it can effect normal cells, causing death, havoc, or life-threatening change". They suggest that the "chemical warfare", otherwise known as standard cancer treatments, should be examined carefully in the future to see if it is in fact causing as much illness as it is curing.

At the other end of the spectrum, in an article in the June 12/95 *Globe & Mail*, Vancouver physician Gabor Mate wrote:

"Current medical theory looks for a purely genetic or biologic cause for most conditions. It finds itself justified in this because the Western Scientific method on which it is based has revolutionized our understanding of the body's processes in health, disease and treatment. What has been devalued, to our cost, is respect for the insight and intuition that reside in the human soul."

Long before the advent of modern medicine, people developed healing traditions, still extant in societies we glibly call primitive. We demean such practices if we see them as "faith healing". Faith healing demands the primacy of mind over body, accepting orthodox medicine's split between the two. Traditional shamanism is aimed at restoring the harmony of mind and body, community and the natural environment, recognizing disharmony as the source of illness.

Perhaps if mainstream cancer treatment concentrated on the completely unnatural environment in which we live, and its

method of "killing to cure", we might come closer to preventing cancer and being able to offer humane treatment to those with the disease that considers the whole person -- body, mind and soul -- not just the random, invading "malignant forces". (The article on treatment as "friendly fire" can be found in the May 17, 1995 issue of the *American Journal of National Cancer Institute*.)

RADIOACTIVE WASTE DISPOSAL IN PORT HOPE

The town of Port Hope, situated on Lake Ontario, has recently been the focus of intense activity as protesters squared off against the federal government over the issue of radioactive waste disposal. For seven years a federal government Siting Task Force has been trying to find a permanent solution to the problem of what to do with existing low level waste. Their answer? Construct a huge cavern underneath Port Hope or Deep River and bury the stuff. Once done, the site would be sealed -- out of sight and out of mind.

But last November a small group formed the **Citizens for Responsible Management of Radioactive Waste**. A core of 160 dedicated townspeople worked -- without any intervenor funding -- to insure that a scheduled referendum in September '95 would be defeated. Depending solely on donations -- from as little as \$5 to as much as \$500 -- the group undertook to research all the issues and provide information to the people of Port Hope. Although Port Hope was promised jobs and other economic incentives if the cavern proposal was approved, the group began digging for information and worked through the winter and spring. They wanted to ensure that Cameco (the local plant which refines uranium and desperately needs someplace to dispose of its waste if it's to stay in business) and the Task Force would not be presenting a one-sided picture of the proposal.

They were helped in their efforts by Dr. David Suzuki, who took time out from filming in Toronto to travel to Port Hope. A local church donated space to the **Citizens** and in late June Dr. Suzuki, waiving his usual speaking fee, addressed a packed audience of 1500. Another local group concerned with the proposal invited **Dr. Rosalie Bertell** and WNH&E's **Dorothy Goldin Rosenberg** to speak to the health issues facing those living near low level radioactive waste.

On July 31, by a vote of five to two, the Port Hope Town Council voted to withdraw from the Voluntary Waste Disposal Program. While they no longer face the prospect of becoming a "host" community, Port Hope does, however, still have the problem of what to do with the waste that is already there. If

...continued on page 12

THE RICHES OF RECYCLING

(Editor's note: the following is excerpted from a much longer article in the July/August issue of *World Watch Magazine*.)

Recycling, one of the key strategies for alleviating the pressures of the human presence on natural systems, has finally -- and dramatically -- arrived as a mainstream industrial activity in North America.

It's ironic that the breakthrough took so long. North America -- or at least the U.S. and Canadian part of it -- is where materials consumption is most profligate, and where the impacts of that consumption (in pollution from landfills and incinerators, energy production for manufacturing, and the spreading damage left by extractive industries) are therefore most troublesome. Yet, for a quarter-century after the first Earth Day, recycling advocates were forced to spend much of their energy trying to make their case to skeptical decision makers.

In the 1980's, recycling was still seen largely as a "do-good" activity. It was of little interest to fast-track business investors, who in those days were too busy pursuing "high-tech" ventures. The idea of founding a profitable business on old newspapers and empty bottles did not fit well with the ascendant lifestyles of the era. Local governments, many of which had to cope with rising landfill costs, were a bit more responsive, but still tended to regard their new recycling programs as burdens.

But now, suddenly, what was seen as a burden has become a major asset, and those communities that had the foresight to set up solid recycling programs a few years ago are beginning to reap real rewards. Since early 1994, prices for nearly all commonly collected recyclables have skyrocketed. New York City, which two years ago was paying \$6 million per year to get rid of its newsprint, now expects to earn \$20-25 million from selling the same material over the next year, says recycling chief Bob Lange. Early in 1994, Madison, Wisconsin was paying \$13 per tonne to the processors who took its recyclables; by the end of the year it was receiving nearly \$23 per tonne. Madison recycling coordinator George Dreckman calls his city's program a "cash cow" that yielded the city \$240,000 in net revenue (after processing costs, but not including collection costs) in the first four months of 1994.

Where recycling is not succeeding, a close look often reveals poor management. In Washington, D.C., for example, where city officials moved in late April to halt residential collection of recyclables, municipal administrators did not take into

account the costs of landfilling and incineration that the city avoided by recycling. They tied funding for the recycling program to revenue from dumping by commercial waste haulers at the city landfill, which meant that the more trash was recycled, the less funding it received. And finally, they failed to renegotiate material marketing contracts to take advantage of rising prices.

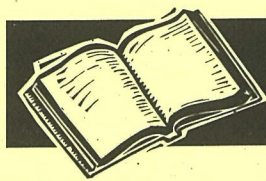
Even some communities with a history of successful recycling, such as Metro Toronto, have not been in a position to benefit from improved markets, because they locked themselves into long-term, fixed-rate contracts before materials prices soared. William Ferretti, director of the New York state Office of Recycling Market Development, says municipal officials and waste haulers alike need to "stop acting like garbagemen" and realize that they are now in the business of selling commodities.

As municipal solid waste officials have realized that recycling can be a cheaper disposal method than landfilling or incineration, collection programs have taken off. Faced with market problems, procurement and recycled-content requirements have been governments' first answer. But a few states are now beginning to make a crucial transition from viewing recycling simply as an environmental measure -- a waste-disposal strategy -- to seeing it simultaneously as an economic development opportunity. The most notable successes have come when economic development offices begin to promote recycling.

During the last year-and-a-half, it has become clear the recycling industry is maturing, and while recycling is worth doing for environmental reasons, its success will eventually be measured in dollars as well. Recycling is a business. Whether it thrives will eventually determine the success or failure of community recycling programs.

In the long run, market mechanisms need to be developed not just to increase recycling, but to reduce the quantity of waste that we generate in the first place. Only then will a truly sustainable materials economy -- one that consumes a minimum of virgin products and recycles most of what it takes -- be achieved.

World Watch is available six times a year at a Canadian subscription rate of US \$30. Write: Worldwatch Institute, 1776 Massachusetts Ave. N.W., Washington D.D. 20036 USA or phone (202) 452-1999, fax (202) 202 296-7368. The Institute also publishes the **State of the World Report**, a collection of essays by leading environmentalists from around the world. It is released annually and is available in most major bookstores.



BOOK REVIEW:

POST-DIAGNOSIS

by SANDRA STEINGRABER (Firebrand Books)

Reviewed by Theresa Puchta

The question many women ask when they are diagnosed with cancer is -- why me? Indeed, there are several questions without any clear answers that one needs to ask about cancer, such as why the rate of cases (particularly the rate of breast cancer) has skyrocketed in recent years. In *Post-Diagnosis*, Sandra Steingraber, a poet, cancer survivor, and biologist asks these questions in an effort to understand the nature of this insidious disease.

Many of the poems and prose pieces in this book do not deal overtly with cancer, but the subject usually lurks underneath the surface. Other times, the voice is more overtly political. In the poem "True, Isn't It?", Steingraber invokes the names of infamous nuclear plants and atomic bomb sites (Hanford, Three Mile Island, Chernobyl, etc.) as a way of reminding us that these places have been directly linked to a host of environmental and health problems affecting people living in their vicinity -- including cancer.

Steingraber's voice is often angry and questioning, yet it is, at the same time, lyrical, hopeful and inspirational. One can also learn a great deal from reading this book; at the end of *Post-Diagnosis* there is a section of notes explaining some of the terms, events and facts used in the poems.

There was a famous slogan used in the early days of the modern feminist movement in the early 1970's: "The personal is political." Nowhere is this more true than in *Post-Diagnosis*, a book that shows us how a potentially devastating disease can bring out the best in a woman's art and at the same time inspire, educate and enlighten the reader.

Post-Diagnosis is available from the WEED office for \$15.00. Well worth the price!

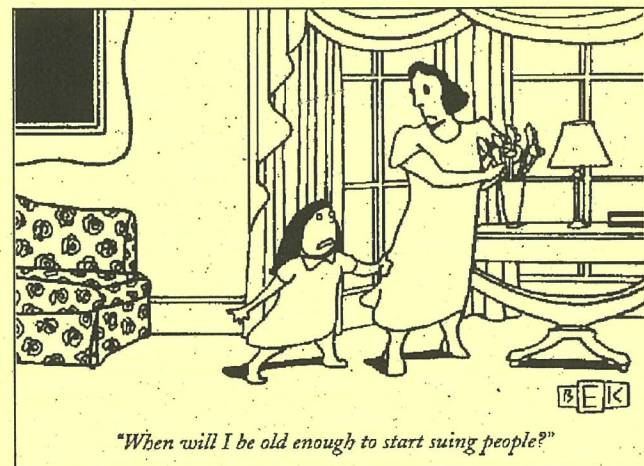


NEW BREAST CANCER SUPPORT CENTRE OPENS

Willow, the Ontario Breast Cancer Support and Resource Centre opened in Toronto on June 5 with a gathering of 900 women. The Centre will give support and the latest in medical information to breast cancer survivors and is intended to be community oriented.

The centre's programs include a planned 800 information number as well as a computer bulletin board. We look forward to working with the staff at Willow to increase awareness of the links between environmental toxins and breast cancer.

The planning office of Willow is located at 519 Jarvis Street in Toronto. For further information call (416) 926-4537.



ACTION ALERT

In mid-June, French President Jacques Chirac announced his government's intention to resume nuclear testing in the South Pacific, the first such tests there since 1992. Eight tests are scheduled to take place at Moruroa atoll between September 1995 and May 1996. Governments in Europe, Australia and New Zealand have condemned France's decision, although Canada--the world's largest exporter of uranium has remained largely silent. But since the decision was announced, thousands of people in cities all over the world have marched, demonstrated and protested. Greenpeace has collected more than 1 million signatures world-wide on a petition to be presented to President Chirac and plans to continue the presence of the Greenpeace ship, the *Rainbow Warrior*, in the South Pacific. Consumers around the world are boycotting French wine, cheese and other goods in an effort to change France's decision. Good idea!

Join the boycott and phone, fax and write to both M. Chirac and the French Ambassador to Canada: **Monsieur Jacques Chirac**, Président de la République, Palais de l'Elysee, 55, rue du Faubourg-Saint-Honore, 75008 Paris FRANCE; Phone 011 331 42 92 81 00, fax 011 331 47 42 24 65. **His Excellency Alfred Siefer-Gaillardin, Ambassador of France**, 42 Sussex Drive, Ottawa, Ontario, K1M 2C9; phone (613) 789-1795, fax (613) 789-3484. A short note to PM Chretien about Canada's uranium exports would also help. See page 4 for address/fax.

For further information, contact **Greenpeace** at 185 Spadina Avenue, 6th Floor, Toronto M5T 2C6; phone (416) 597-8408, fax (416) 597-0114.

RESOURCES

* **Canadian Cancer Statistics 1995** is produced by the National Cancer Institute, Statistics Canada, Provincial Cancer Registries, and Health Canada and provides the most recent statistical analysis of cancers across the country. It is available free of charge from your local branch of the Canadian Cancer Society. In Toronto, call 975-5585.

* **Hormone Copycats** is the name of a new video from the World Wildlife Fund in Toronto. Featuring (among others), Dr. Theo Colborn, Dr. Carlos Sonnenschien (who works with Dr. Ana Soto) and Dr. Glen van der Kraak, this video will examine endocrine disrupters, explaining what they are, where they're found, and what needs to happen to get them out of our environment. Available free of charge to advocacy and public interest groups, the video will be released on August 28th. Phone WWF in Toronto at (416) 489-8800.

* **Planning for the Sunset: A Case Study for Eliminating Dioxins By Phasing Out PVC Plastics (May 1995)** has been prepared by the Clean Production Task Force of Great Lakes United (May 1995) and is available in Canada by writing to 2360 rue Notre Dame O. #307, Montreal, Quebec H3J 1N4. Phone (514) 933-0262, fax (514) 931-1926, e-mail: glu@igc.apc.org. The cost is \$10.00.

* A newsletter called **The Green Guide**, by Mothers and Others for a Livable Planet, is full of excellent, common sense information, alternatives and action alerts. It is published every three weeks (except in January and August) and is available for a subscription fee of U.S. \$20 from **Mothers and Others**, 40 West 20th Street, New York, N.Y., 10011. Phone (212) 242-0010, fax (212) 242-0545.

* **The Ecology Guide** prepared by environmental physician Dr. Jozef Krop is especially useful for those with Multiple Chemical Sensitivities, but is valuable for anyone wishing to become more aware of the impact of common toxics in our air, water and food. It also contains suggestions on how to reduce and perhaps avoid some substances, with suggestions for alternatives. The guide is available for \$10.00 from Dr. Krop's office. Write to **6901 Second Line West, Mississauga, Ontario L5M 2B5**. Phone: (905) 564-0122, fax (905) 564-0368.

* **Pesticide Bylaws: why we need them; how to get them**, by Merryl Hammond, Ph.D of the Citizens for Alternatives to Pesticides. This publication outlines the environmental and health impacts of pesticide use, as well as containing useful alternatives and a specific outline for changing the laws regulating commercial uses of pesticides. Write the **Citizens for Alternatives to Pesticides (CAP)** at 20 Sunny Acres, Baie d'Urfe, Quebec H9X 3B6. Phone (514) 457-4347, fax (514) 457-4840.

* **Citizen's Guide to Biotechnology** offers an overview of issues relating to the biotechnology industry in Canada as well as review of which government agency is regulating the various applications. It is available by phoning Patricia Merrimen at (416) 923-3529, or by writing the Canadian Institute of Environmental & Policy, 517 College Street, Suite #300, Toronto M6G 4A2. The Guide is available to individuals for \$19.99 and to students, NGO's and anyone ordering multiple copies for \$14.99.

COMING EVENTS

* **8th Biennial International Joint Commission (IJC)** meeting, Duluth, Minnesota, September 22-25. There is no fee for the conference. For complete registration information and materials, write Ms. Rita Kerner, IJC, 1250 23rd St. NW, Suite #100, Washington, D.C. 20440, phone (313) 226-2170, or you can contact Citizens for Zero Discharge at (218) 729-1828.

* **Make the Link: Health and Environmental Justice**, Atlanta, Georgia, October 28-29. This is the first Southern regional health and environmental justice conference and it's being sponsored by international, national and regional grassroots organizations, including Greenpeace, EcoAction, and the Southern Organizing Committee for Economic and Social Justice. For more information, contact Cynthia Newbille, **National Black Women's Health Project**, 1237 Ralph D. Abernathy Blvd, SW, Atlanta, GA 30310, phone (404) 758-9590, or contact Angela Brown of **Greenpeace**, 20 13th Street, NE, Atlanta, Georgia 30309, phone (404) 876-5443.

* **Breast Cancer and the Environment**, November 3rd and 4th in Niagara Falls, Ontario. Speakers will include Dr. Devra Lee Davis, Dr. Rosalie Bertell and Dr. Ross Hume Hall. Registration is \$30.00 and includes two lunches. For more information, contact the **Breast Cancer Research and Education Fund**, 8 Pearl Ann Drive, St. Catharines, Ontario, L2T 3B3. Phone (905) 687-3333, fax (905) 641-45333.



So long to Marti Mussell of the Women's Environmental Network in Ottawa, who is soon off to Honduras for three years. Thanks go to Marti for all her hard work organizing WEN and especially for staging to the February '95 panel on Breast Cancer and the Environment in Ottawa. We welcome all former WEN members to our newsletter -- and best wishes to Marti as you begin your sojourn in Honduras!

Port Hope...continued from page 8

Deep River, located north of Ottawa, votes in favour of the referendum on September 21, the underground cavern will be located there and Port Hope's waste would be transported north. Although the Citizens members feel that they must not take their campaign to Deep River -- Deep River must now decide if it wishes to become a "host" community -- the **Port Hope Citizens for Responsible Management** do not support *any* underground burial of waste. Instead, they favour above-ground, monitored disposal sites similar to the one built in Lewiston, New York where all nuclear waste can be carefully watched and leaks can be repaired rapidly.

For further information, you can contact **Mr. Ross Hume, Chair, Citizens for Responsible Management of Radioactive Waste, 251 Ward Street, Port Hope, Ontario, or phone (905) 885-9646.**

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All suggestions, letters, upcoming events, and other contributions of interest, are welcome. Please address to *Connections*, WNH&E, c/o The WEED Foundation, 736 Bathurst Street, Toronto M5S 2R4
Or call us at (416) 516-2600



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STOP THE WHISTLEBLOW

APR 22 1996

MILK SAFETY

A scientific and political noose appears to be tightening around Monsanto corporation's controversial hormone product, rBGH (recombinant bovine growth hormone), also called rBST (bovine somatotropin). For the past 18 months, Monsanto has been aggressively marketing its genetically-engineered hormone to farmers here and abroad, to increase the milk yield of dairy cows. Cows injected with rBGH every 2 weeks produce 10% to 20% more milk than untreated cows. The U.S. Food and Drug Administration (FDA) in late 1993 declared the milk from rBGH-treated cows safe. However, new scientific studies published this summer suggest that milk from rBGH-treated cows may not be as safe for humans as was previously believed.

Political troubles for rBGH are mounting as well. Because of unresolved scientific issues related to the safety of milk from rBGH-treated cows, the international standards-setting organization in Rome, Italy -- Codex Alimentarius -- earlier this summer rejected a U.S. proposal to declare the use of rBGH safe, posing no significant health risk. In the debate at the Codex meeting, the U.S. government promoted rBGH, but the 14-nation European Union successfully opposed approval, winning by a vote of 34 to 31.¹ Other European countries besides the EU have placed a moratorium on use of rBGH, as has Canada. In June, 1995, in Canada the House Committee on Health, an all-party Parliamentary committee, unanimously called for a minimum 2-year moratorium on rBGH to examine the unresolved human health issues. The Agriculture Committee called for a similar moratorium but not limited to 2 years and limited to human health issues.² Monsanto is aggressively working to have such moratoriums lifted, but the newly-published scientific information seems certain to make Monsanto's task increasingly difficult.

Meanwhile back in the U.S., consumer advocacy groups (Food & Water, Inc., in Marshfield, Vermont [phone: 1-800-EAT-SAFE], and the Pure Food Campaign in Little Marais, Minnesota [phone: 1-800-451-7670]) are locked in pitched battles with major dairy conglomerates that are injecting their cows with rBGH -- Land O' Lakes and Cabot Creamery. The campaigns aim to force the dairies to stop using rBGH. The consumer groups seem likely to get the upper hand here, as the main arguments being used by the dairy corporations are undercut by the new scientific findings.

When a cow is injected with rBGH, its milk production is stimulated, but not directly. The presence of rBGH in the cow's blood stimulates production of another hormone, called Insulin-Like Growth Factor 1, or IGF-1 for short. It is IGF-1 that stimulates milk production.

IGF-1 is a naturally-occurring hormone-protein in both cows and humans.³ The IGF-1 in cows is chemically identical to the IGF-1 in humans.⁴ The use of rBGH increases the levels of IGF-1 in the cow's milk, though the amount of the increase is disputed. Fur-

thermore, IGF-1 in milk is not destroyed by pasteurization. Because IGF-1 is active in humans -- causing cells to divide -- any increase in IGF-1 in milk raises obvious questions: will it cause inappropriate cell division and growth, causing tumors?

According to the *Statistical Abstract of the U.S.* (1994 edition), Americans in 1992 each consumed an average of 564.6 pounds of cows' milk and milk products, or about 1.54 pounds per person per day; this includes milk, cream, ice cream, ice milk, buttermilk, cheese, cottage cheese, various "dips," and yogurt. Additional milk may be consumed in baked goods. Because milk is consumed in such large quantities, an increase in a growth-promoting hormone in milk is of potentially great public health interest.

When the National Institutes of Health (NIH) reviewed the safety of rBGH back in 1991 (concluding that it was safe), they acknowledged their ignorance about IGF-1: "Whether the additional amount of insulin-like growth factor 1 in milk from [rBGH-treated cows] has a local effect on the esophagus, stomach or intestines is unknown." One of the NIH's 6 recommendations for further research was, "Determine the acute and chronic actions of IGF-1, if any, in the upper gastrointestinal tract."⁵

The Council on Scientific Affairs of the American Medical Association formally expressed concern about IGF-1 related to rBGH in 1991, saying, "Further studies will be required to determine whether ingestion of higher than normal concentrations of bovine insulin-like growth factor [IGF-1] is safe for children, adolescents, and adults."⁶

The position of Monsanto, and of the dairy conglomerates using rBGH, are different. Monsanto's public position since 1994 has been that IGF-1 is not elevated in the milk from rBGH-treated cows. For example, writing in the British journal, *Lancet*, in 1994, Monsanto researchers said "...IGF-1 concentration in milk of rBST-treated cows is unchanged," and "...there is no evidence that hormonal content of milk from rBST-treated cows is in any way different from cows not so treated."⁷ However, in a published letter, the British researcher T. B. Mepham reminded Monsanto that in its 1993 application to the British government for permission to sell rBGH in England, Monsanto itself reported that "the IGF-1 level went up substantially [about five times as much]."⁸ The U.S. FDA acknowledges that IGF-1 is elevated in milk from rBGH-treated cows.⁴ Other proponents of rBGH acknowledge that it at least doubles the amount of IGF-1 hormone in the milk.⁹ The earliest report in the literature found that IGF-1 was elevated in the milk of rBGH-treated cows by a factor of 3.6.¹⁰ Besides Monsanto, no one seems to argue that rBGH treatment of cows has no effect on IGF-1 levels in their milk.

The dairy conglomerates -- Land O' Lakes and Cabot Creamery -- acknowledge that IGF-1 is elevated in their milk. However, they argue that it doesn't matter. They point out (correctly) that human saliva has IGF-1 in it, and they argue that that doesn't matter either because IGF-1 is broken down during digestion.

A new study published this month shows this to be wrong. IGF-1 by itself in saliva is destroyed by digestion, but IGF-1 in the presence of casein (the principal protein in cows' milk) is not destroyed by the digestive system.¹¹ Casein has a protective effect on IGF-1, so IGF-1 in cows' milk remains intact in the gut of humans who drink rBGH-treated milk. There was reason to believe that this might be true because researchers in 1984 had shown that another growth hormone, Epidermal Growth Factor (EGF), in the presence of casein was not degraded by the digestive system.¹² However, proof had been lacking for IGF-1 until now.

So the saliva argument has been invalidated by scientific experiment. The question then becomes, what are the likely effects of IGF-1 in contact with cells of the human gastrointestinal tract? *This is the question the NIH said needed answering back in 1991.* Now there are at least three relevant studies.

1. Some humans suffer from a condition called acromegaly, or gigantism, which is characterized by excessive growth of the head, face, hands, and feet. It is caused by excessive natural production of IGF-1. Importantly, a recent report indicates that people who suffer from acromegaly have an elevated incidence of tumors of the colon (a portion of the intestines).¹³

2. Two British researchers, D.N. Challacombe and E.E. Wheeler, experimented with IGF-1, exposing human cells taken from the small intestine. They report that IGF-1 induced mitotic activity — that is to say, IGF-1 promoted cell division.¹⁴ This is an important finding. Cancer is uncontrolled cell division.

3. As cells divide, at some point they are instructed (by their genes, in combination with hormone signals) to stop dividing or they are instructed to die so that the creation of new cells is matched by the death of cells and no net growth occurs; this is called "programmed cell death." If "programmed cell death" is prevented, then cells don't die at the right time, causing an unnatural increase in cells — another way to make a tumor. A study published in June by Renato Baserga and others in *Cancer Research* reveals that IGF-1 promotes the growth of cancer tumors in laboratory animals and in humans by preventing programmed cell death.¹⁵ This is another important finding.

Taken together, these new studies all point to the need to understand more about rBGH and its effects on IGF-1 levels in cows' milk, and an additional need to understand what happens to the human gastrointestinal tract when it comes in contact with enhanced levels of

IGF-1. The relationship of IGF-1 to cancer deserves special attention. Even researchers who are known as proponents of rBGH have recently said in print, "Many more potential effects of ingested IGF-1 on the gastrointestinal tract and the local immune system of the gut need to be explored."¹⁶

In the face of this growing body of scientific evidence, how long can rBGH-using dairy corporations maintain that their milk, butter and cheese are wholesome and safe beyond doubt?

[1] Rodney E. Leonard, "Codex at the Crossroads: Conflict on Trade, Health," *Nutrition Week* Vol. 25, No. 26 (July 14, 1995), pgs. 4-5. *Nutrition Week* is published by the Community Nutrition Institute, 910 17th Street, N.W., Suite 413, Washington, DC 20006; phone: (202) 776-0595.

[2] Reported to us by the Council of Canadians, Ottawa, Canada; phone: (613) 233-2773.

[3] T.B. Mepham, "Public health implications of bovine somatotrophin [sic] use in dairying: discussion paper," *Journal of the Royal Society of Medicine* Vol. 85 (December 1992), pgs. 736-739.

[4] Judith C. Juskevich and C. Greg Guyer, "Bovine Growth Hormone: Human Food Safety Evaluation," *Science* Vol. 249 (1990), pgs. 875-884.

[5] "NIH Technology Assessment Conference Statement on Bovine Somatotropin," *Journal of the American Medical Association* Vol. 265, No. 11 (March 20, 1991), pgs. 1423-1425.

[6] Council on Scientific Affairs, American Medical Association. "Biotechnology and the American Agricultural Industry," *JAMA [Journal of the American Medical Association]* Vol. 265, No. 11 (March 20, 1991), pg. 1433.

[7] Robert J. Collier and others, "[Untitled Letter to the Editor]," *Lancet* Vol. 344 (September 17, 1994), pg. 816. Monsanto Senior Vice President Virginia V. Weldon, MD, says, "...the FDA has concluded from detailed studies that IGF-1 is not increased." See Virginia V. Weldon, "Re 'A Needless New Risk of Breast Cancer, Commentary, March 20,'" *Los Angeles Times* April 4, 1994, pg. 6.

[8] T. B. Mepham and others, "Safety of milk from cows treated with bovine somatotropin," *Lancet* Vol. 344 (November 19, 1994), pgs. 1445-1446.

[9] William H. Daughaday and David M. Barbano, "Bovine somatotropin supplementation of dairy cows: is the milk safe?" *Journal of the American Medical Association* Vol. 264, No. 8 (August 22, 1990), pgs. 1003-1005.

[10] C. G. Prosser and others, "Increased secretion of insulin-like growth factor-1 into milk of cows treated with recombinantly derived bovine growth hormone," *Journal of Dairy Science* Vol. 56 (1989), pgs. 17-26.

[11] C. Xian, "Degradation of IGF-1 in the Adult Rat Gastrointestinal Tract is Limited by a Specific Antiserum or the Dietary Protein Casein," *Journal of Endocrinology* Vol. 146, No. 2 (August 1, 1995), pg. 215.

[12] W. Thornburg and others, "Gastrointestinal absorption of epidermal growth factor in suckling rats," *American Journal of Physiology* Vol. 246 (1984), pgs. G80-G85.

[13] J. Tremble and A.M. McGregor, "[article title unknown]," in J.A.H. Wass, editor, *Treating Acromegaly* (London: International Society of Endocrinology, 1994), pgs. 5-12. We have not seen this study; it is cited in an unpublished paper by T.B. Mepham and P.N. Schonfield, "Health Aspects of BST Milk," prepared for the International Dairy Federation Nutrition Week conference in Paris, France, June, 1995. Mepham and Schonfield say this study reports a "marked tumour excess being evident in the colon" among acromegalics.

[14] D.N. Challacombe and E.E. Wheeler, "Safety of milk from cows treated with bovine somatotropin," *Lancet* Vol. 344 (Sept. 17, 1994), pg. 815.

[15] Mariana Resnicoff, and Renato Baserga, "The Insulin-like Growth Factor 1 Receptor Protects Tumor Cells From Apoptosis in Vivo," *Cancer Research* Vol. 55 (June 1, 1995), pgs. 2463-2469.

[16] Jeanne L. Burton and others, "A review of bovine growth hormone," *Canadian Journal of Animal Science* Vol. 74 (1994), pgs. 167-201.

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