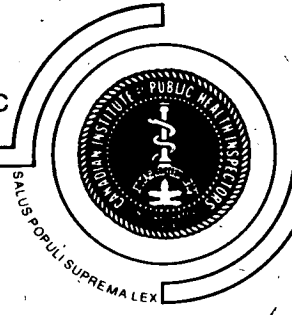


1981 Fall

Larry Lychowyd  
8 Martinview Court  
ISLINGTON, Ontario  
M9B 2P7

Canada Post Postage paid	Postes Canada Port payé
Third class Troisième classe	
391933	
C linton	

CANADIAN INSTITUTE OF PUBLIC  
HEALTH INSPECTORS

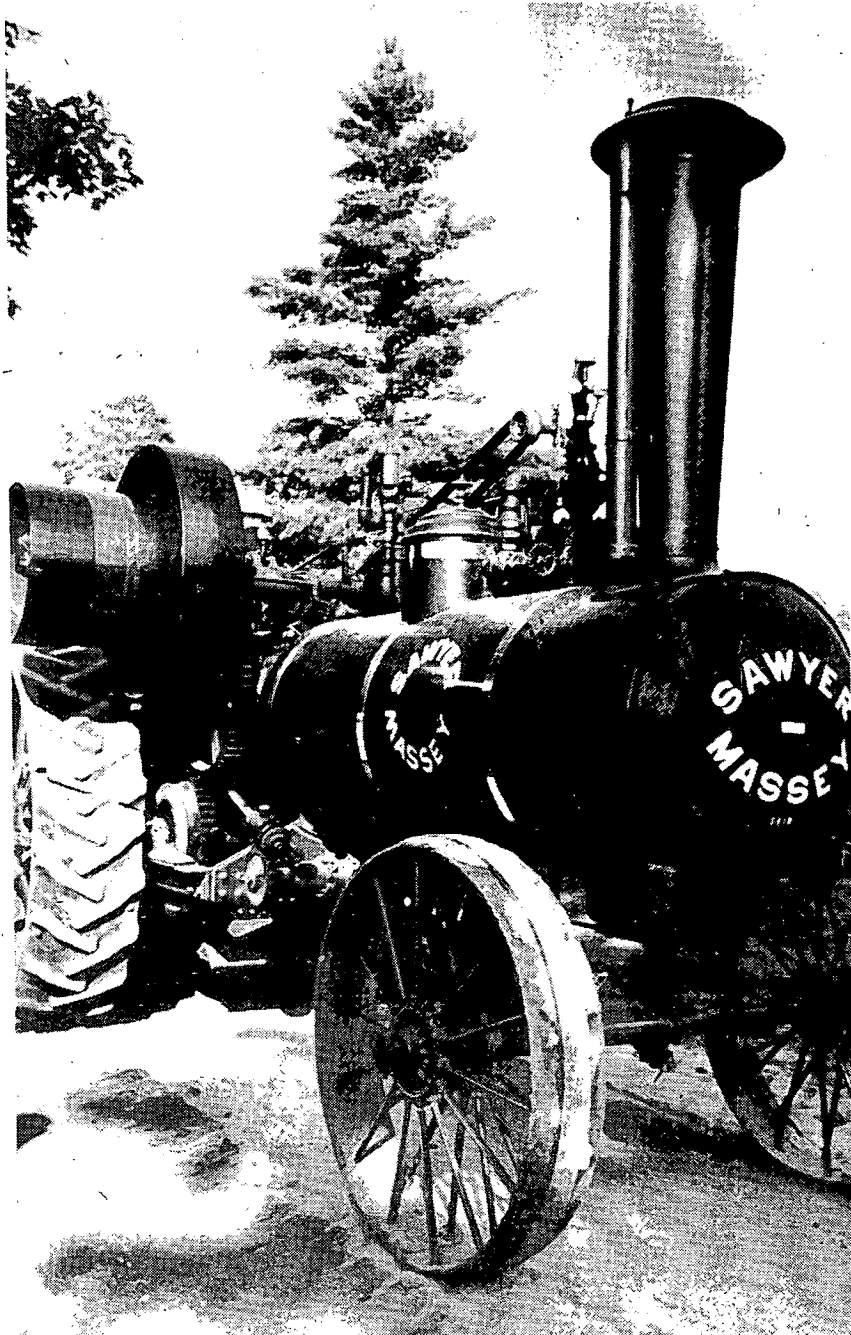


[ONTARIO BRANCH] INC.

L'INSTITUT CANADIEN DES INSPECTEURS  
EN HYGIÈNE PUBLIQUE

ISSN Number 0710-345X

# ONTARIO BRANCH NEWS



*Fall*  
*Volume II*  
*Number 4*

## *Asbestos*

The past  
returns  
to haunt us.

# The human tragedy of asbestos

**EDITOR'S NOTE:** Part of the mandate for the Royal Commission on Asbestos is to... "investigate all matters relating to health and safety arising from the use of asbestos in Ontario"... to "identify the relevant data related to asbestosis, mesothelioma, and other diseases and health hazards of persons working with, or exposed to, asbestos in Ontario..." It is probable that many of the 'grey areas' of the asbestos issue will be unsolved when the commissions work is complete. Many arguments on the 'cost/benefit of asbestos and the 'trade-offs' made will be presented, but the bottom line is still the effect on human health that asbestos has caused. The whole issue was described in human terms when the December 12, 1980 public meeting was concluded with an impassioned statement from Mrs. Odette Dodds, the widow of asbestos worker John Dodds, who died in 1978. Mrs. Dodd's statement is presented as the Guest Editorial to emphasize the need for research to be made into the potential implications of new product use such as urea formeldhyde, PCB's, and other chemicals.

"I am a woman with great determination and have a mind of my own... My husband worked for Johns-Manville company for 23 years. He'd never been sick a day of his life, never missed a day of work. In 1974, my husband was forced to retire due to industrial diseases. In 1977, my husband became a human guinea pig, to find out before he died how much asbestos could damage a human body... I saw my husband going through hell. He (donated) his body to anatomical and medical research. The hardest part for us was to... find a doctor we could trust and we found three of them."

When her husband died "an autopsy was performed. His body sections were preserved and here's what we found: 100% asbestosis, silicosis, severe fibrosis on both lungs, thyroid malignant carcinoma, one vocal chord paralysed, spinal damage due to radiation treatment. He received 100 radiation treatments in 12 and a half days, which destroys the cancer and also the evidence."

"Cancer started on his back -- melanoma -- and I saw that cancer grow right on the top of my husband's spine and it changed four different colours and it started to grow just like a mop and we couldn't stop it. He had scirrosis of the liver, he lost both legs, he lost his hands, his arms, became deaf and he couldn't speak any more. And the more I think about it, the more I want to do something about it."

"In 1955/56, we almost all ended up in our own graves through Johns-Manville negligence. It took my husband and I many years to find out about asbestos and when we found out about asbestos, the magic mineral with dust that kills, it was already too late, because no matter how strong you are or how healthy you are, there is no escape for anyone."

"If I may say so, we should have had this kind of public meeting a long time ago, because if we had, I don't think we'd be in the mess we are today. Is it through progress, industry, negligence, greediness, carelessness, stupidity, ignorance, fear, panic -- your guess is as good as mine."

"One of the biggest problems is that we don't like to think and talk about the truth. Three quarters of the time we are our own worst enemy, and it is about time that we realized the facts and changed the law if we want to keep this country healthy and prosperous. The thing I want the most is not here anymore... and I can't do a bloody thing about it. That is the Canadian law. You know and I know it's not right."

Mrs. Dodds said she had a friend with her whose husband died after working for Johns-Manville for 30 years. His death was "not compensable," so her friend had to go back to work. "I know it's depressing, but I don't try to escape -- I just try to prevent another disaster in 20 to 30 years from now, through my own experience and tragedy."

She said she'd immigrated to Canada in 1953 and "I think the world of my new country and even if I have to fight this until the day I die, I am willing to do so. When I lost my husband, I lost everything; there is no more future for me. I've got children and grandchildren; I'd like to see my loved ones and others have a future... I worked for 21 years and I lost everything through Johns-Manville's negligence and that's not right, that's not fair."

She said that when her husband started with Johns-Manville in 1952, "conditions were so bad that the workers couldn't see each other."

Mrs. Dodd's concluded her statement by saying she had always supported her husband 100% and always would. "Rest in peace, John. I shall live on with pride and dignity. I shall carry your good work... I shall stick to my guns till the end... John, I'll never forget you -- I won't forget, nor forgive, nor give up. Giving up is failure; I don't want to be a failure -- I want to be a winner. I'll be back each time here."

Commission Chairman Dr. Dupre told Mrs. Dodds that she will always be welcome.

---

## Did you vote?

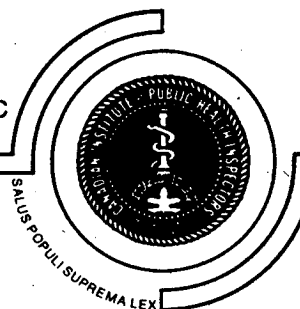
**BY TOM STEWARD, Chairman,  
Nominations and By-laws Committee**

The annual institute conference will be held the week of September 21, 1981, and with it comes the election of new officers. This year a president and four councillors are to be elected. Two names have been submitted for president - **Mike Gravel** and **Fred Ruf** and nine members for councillors, **R. Ahmed, J.W. Cave, R.W. Cyr, W. Desormeaux, H.P. Garcia, H.F. Goodfellow, J.M. Orr, J.S. Stone, J.M. Watt.**

The fact that so many are willing to sacrifice their time and

talents to be a member of the institute, either as president or councillor, indicates enthusiasm and interest in our organization. This requires the best people from many different areas. By voting you can feel confident that you are respected by someone from your area who will do a good job for you and our institute. It is important to retain your membership and utilize your vote to express your agreement or disagreement with the candidates on the ballot.

The election may well be over when you read this, but remember it is your right to vote and hopefully it wasn't thrown away.



Subscription \$4./yr.

# Ontario Branch News

Fall Volume II Number 4

Letters to The Editor are welcome and should be mailed to:

Editor  
KLAUS SEEGER  
Box 687  
Clinton, Ont. N0M 1L0  
Published by the  
Canadian Institute of Public  
Health Inspectors (Ontario Branch) Inc.

Published Quarterly  
Insertion Deadlines  
Spring Feb. 15  
Summer May 15  
Fall August 15  
Winter Nov. 15

## CONTENTS

- A survivor of 350 million years.. pg. 7
- A radioactive odity ..... pg. 6
- Education survey ..... pg. 14

## FEATURES

### Asbestos!

The past exploiting future human health ..... pg. 10

Assessing the quality of scientific evidence .....pg. 13



## This issue

Fall is here again and already the **Ontario Branch News** version of the newsletter is two years old. This issue also parallels the election of new councillors for the executive as well as a new president. Your support of the Branch is needed in every way.

The theme article centres on the ongoing **Asbestos** issue. A Royal Commission on asbestos began its deliberation late October 1980. At the initial two meetings experts outlined the problems associated with the use and overpower to asbestos. **Dr. David Muir** presented a paper "Assessing the Quality of Scientific Evidence" as it relates to the health hazards of asbestos. Dr. Muir is the Director of the Occupational Health Program at McMaster University and he has consented to have his address reprinted in this issue of the Ontario Branch News. Dr. Muir will also be speaking at the 1981 Ontario Branch Conference.

**President**  
BRIAN HATTON  
1975 Caribon St., Sudbury  
**Immediate Past President**  
WILLIAM WRIGHT  
875 Wonderland Road., S.  
Apt. 903, London, Ont.

**Secretary-Treasurer**  
MIKE GRAVEL  
R.R.11, Peterborough, Ont.

**COUNCILLORS**  
**1979-1981**  
JAMES CAVE  
24 Stoney Creek Dr.  
West Hill, Ont. M1E 3L5  
HUGH GOODFELLOW  
107 Glenburning Cres.  
London, Ont.  
FREEMAN HUTCHINGS  
R.R.1,  
Elginburg, Ont. K0H 1M0  
JIM STONE  
1233 Donald Drive  
North Bay, Ont. P1A 3H2

**Councillors**  
**1980-1982**  
PETER FITZSIMONS  
614 Wellington St., E.  
Sault Ste. Marie  
PAUL MCINNIS  
P.O. Box 34,  
Owen Sound, Ont. N4K 5P1  
PATRICK (Bud) O'DONNELL  
575 Summerhill Cres.  
Sudbury, Ont.  
PAMELA COOK  
300 Merton St.  
Toronto, Ont.  
TOM STEWARD  
647 Otterson Ct.  
Ottawa, Ontario.

The **Guest Editorial** is a reproduction of a statement made by Mrs. Odette Dodds at the Commission proceedings. She is the widow of John Dodds, a Johns-Mansville Canada worker who died in 1978.

**Pamela Cook**, a Branch Councillor and a faithful supporter of the Ontario Branch News, has again submitted some interesting material. A Rodent Quiz to test your knowledge, with answers to be found elsewhere in this issue. In addition we also have for you the **Cockroach Combat Manual**.

**Pamela Cook** and **Jim Stone** Co-chairman of the Education Committee have prepared a survey on the members needs for inservice programs. Quick membership response is requested.

Your interest in your magazine is needed. We want to know where you are, what you are doing. Send in articles, even news clippings which may interest public health inspectors. Everyone does not read or see the same items of interest.



## Our president speaks

# Completes successful term

Appointed national secretary treasurer

This will be my last newsletter report as President of the Ontario Branch and I must say the past two years have passed very quickly. As I pass on the Presidency to one of the declared candidates I have not relinquished any participating in our Organization. As of July 10, 1981, I was appointed successor to Lilli Anne Zahara as National Executive Secretary-Treasurer and I am looking forward to the new challenges that come with this position.

The Branch Executive has dealt with many problems over the past two years and many more will have to be dealt with by the new executive which will be elected in North York at the Annual Conference in September. For the most part I am very pleased at the progress and accomplishments of the present administration. One of the major problems which continues to plague our Association is the entrenched negative attitude of many Public Health Inspectors about the Institute. I feel this attitude does more harm than any other factor in our image as a professional association. The new executive will have to continue with what has been done in the past in winning the confidence of those

Inspectors' refusing to be a part of the Institute. My report to the membership in September will go into more detail on this aspect.

I am looking forward to the Conference in North York, September 21st to the 25th and I hope many of you will be attending. The program being put on is certainly worth your attention and attendance. The conference staff in North York are working hard to make everything a success.

Lastly, I would like to thank the Branch Executive who served with me the past two years and the other appointed committee members, who served on various committees throughout my term for their dedication and efforts for the Institute and Public Health Inspection. I would also like to personally thank Klaus Seeger for the excellent job he has done on the Ontario Branch Newsletter. The effort he has put forth over the past two years exceeded anyone's expectations in producing a newsletter of which the Branch Executive is very proud of. This dedication is very much appreciated and I hope everyone continues to support his efforts in the future.

Brian Hatton

## Education committee announces

### OHHC

**The Occupational Health and Industrial Hygiene Course:** Those persons who previously applied for the course offered in June, 1981 will have to reapply for the February, 1982 course.

### Seminar

A one day seminar has been tentatively scheduled for the first week of December, 1981, to be held at the Ontario Ministry of Health, Laboratory Services Central Branch, Rexdale, Ontario (Islington Ave. and Hwy. 401).

The seminar will include a tour of the various laboratories and lectures by representatives from each of the following Laboratory services: Bacteriology, Environmental Bacteriology and Chemistry, Parasitology, Serology, T.B. Bacteriology.

This educational seminar will provide an excellent opportunity to bring Ontario Public Health Inspectors up to date on the laboratory services offered by the Ministry of Health and to fully realize the valuable role played by this service in safe guarding public health.

Each member will receive written correspondence by the first of October, confirming the complete details of this Education Seminar.

Pamela Cook, Jim Stone  
Education Committee



### Pest Prevention Practices

K. G. Spencer Pest Prevention Practices Ltd.  
P.O. Box 1640, Picton, Ontario, Canada  
K0K 2T0 Phone (613) 393-5581

Ken G. Spencer C.P.H.I.(C.) President

*A company dedicated to pest prevention through:*

- Structural Design
- Cleaning
- Housekeeping
- Mechanical Control
- Pesticide Application

## Information exchange

### New outfall sewer for south Peel

Construction of a new outfall designed to discharge effluent from the South Peel Sewage System through a 1,700-meter-long, 8,800-mm-diameter pipeline into Lake Ontario 1,210 m offshore was announced by Environment.

"The existing 1050-mm-diameter outfall, serving a population of 89,000, is now operating at capacity," Norton said. "The new outfall will complement the system's new primary tanks and digestion facilities now nearing completion. It will also improve protection of the shore by diffusing effluent 800 meters further out in the lake and will permit continued growth in the western part of Mississauga to serve a future population of 375,000."

### Aeration controls

BY SCOTT McCAMMON

A new method of limiting the impact of hog and cattle manure spills on fish and other aquatic life is now being developed by the southwest regional office of Environment Ontario in London. The

method involves aeration of the water by a portable, gasoline-operated air blower which pumps air through a tube to form a curtain of bubbles.

Animal manure has a high ammonia content which is toxic and when mixed with water, also reacts chemically to use up the oxygen in the water. This oxygen shortage suffocates the fish and other aquatic life. Manure passing through the curtain of bubbles is oxygenated and detoxified.

Animal manure is used extensively by farmers as fertilizer, but most farmers have limited storage space for it. Sometimes excess manure is dumped either on land near the rivers or directly into the rivers. The manure then begins its path of destruction.

"Too many farmers don't know the toxic effects of manure," says southwestern regional director Doug McTavish. "So far, the ministry has attempted to stop spills by informing the farmers of the toxic effects and by imposing stiff fines. In the future, we hope to limit the impact of spills quickly and effectively with our portable aeration unit. Attempts will be made to identify the people responsible and to recover the costs of the investigative and aeration operations."

The aeration unit, stored at the London office, can also be used in dealing with effluents from industries and municipalities.

## CSA Alert

### Barbecue lighters recalled

The owners of TERMRO/EXCELL electric charcoal lighters, model 2001012 are being warned of a possible electric shock hazard according to the Canadian Standards Association (CSA) and the manufacturer, Temro Automotive.

CSA has not received any reports of injuries. Investigation discovered electrical leakage due to a suspected insulation problem. It is estimated that 100,000 of these lighters were distributed across Canada.

CSA and Temro are urging the public to check their electric charcoal lighters for the following marking on the handle:

**Electric Lighter**  
**Model No. 2001012**  
**600 watts, 120 volts**  
**IR 1843**

Owners of these lighters bearing the above marking are asked to stop using them immediately. The Association has been informed that some stores are willing to provide a refund, or consumers may return the lighters to the manufacturer at:

**Temro Automotive Div.**  
**Budd Canada Inc.**  
**67 Westmore Drive**  
**Unit 11**  
**Rexdale, Ontario**  
**M9V 3Y6**  
**[416] 743-8504**

### Saunas recalled

Owners of Home Spa sauna heaters Models HE 50, -60, -75 and -90 and Homecraft Sauna heaters Models HSH 5, 5.5, 6, 7.5 and 9 should stop using them immediately because of a potential fire hazard according to the Canadian Standards Association (CSA) and Westhome Manufacturing Limited.

CSA investigations have discovered a change in the construction which could cause high temperatures resulting in charring of adjacent wood walls. CSA has not received any reports of injuries. It is believed there are about 3300 of these units across Canada. They were manufactured between March 31, 1980 to May 15, 1981.

The recalled Home Spa models have serial numbers ranging from 16100 to 18100 and Homecraft Models have serial numbers ranging from 4100 to 5100 which are stamped on the certification label on the lower right hand corner of the units.

If you have one of these units, stop using it immediately and contact the manufacturer at the following location for replacement information:

**Westhome Manufacturing Limited**  
**2845 Grandview Highway**  
**Vancouver, British Columbia**  
**V5M 2E2**  
**[604] 872-0361**

### A fatal coverup

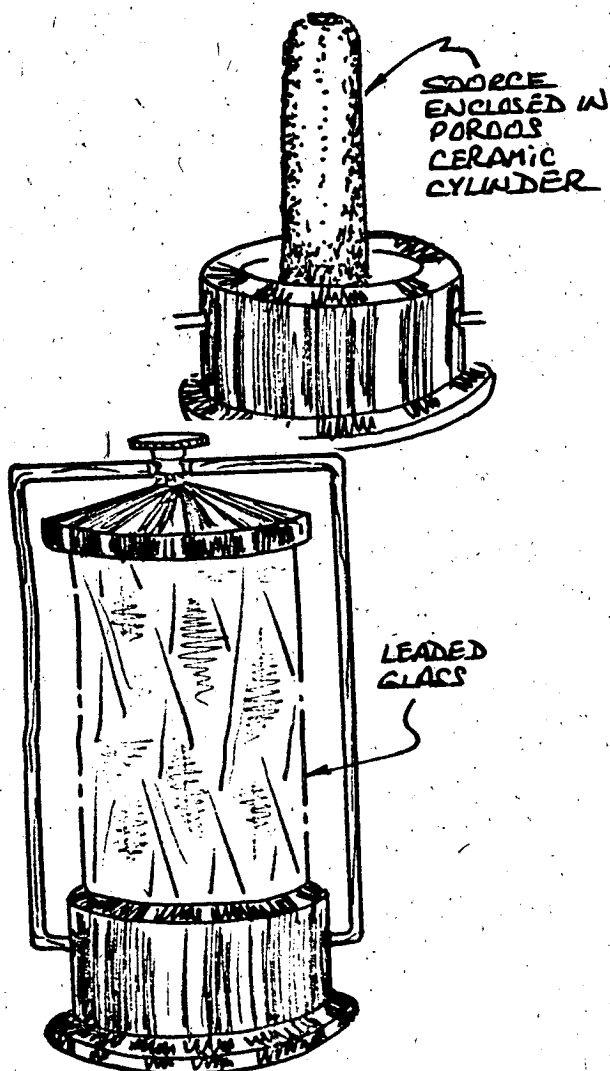
This summer, don't allow anyone to use the swimming pool if you have a solar cover and it isn't completely removed.

We recently heard of some children who pleaded to go swimming, but their father didn't want to roll up the solar cover. After much discussion, a compromise was reached. Dad agreed to roll the cover back halfway and allow the anxious kids to swim in the shallow end.

Unfortunately, one little boy ventured into the deep end and became trapped under the cover. There are few air pockets and those which may exist could be filled with deadly chlorine gas, but tragedy was averted when the struggling swimmer was rescued by his father. However, others have not been fortunate.

Be sure to never turn a swimming pool solar cover into a potential deathtrap by removing part of it.

## Running at both ends



## A radioactive oddity

by Tim Sly

In early June, a device was brought into the Health Unit by a person who had discovered it on the top of the garbage can while walking his dog. The device, 15 cm high, resembled a small oil lamp and was made of bakelite and coloured leaded glass. Upon further examination at home, the discoverer saw the words "Radium Institute, Berlin" inscribed on a brass plate on the base of the object. The Radiation Safety Officer, the University of Western Ontario, recorded an intensity of radiation at the external surface of the object of between 20 and 30 millirontgens/hr. At a 1 metre distance, a level of .5 millirontgens/hr. was recorded.

The Nuclear Medicine Department at University Hospital examined the device and observed a spectrum of emission typical of radium. The container was opened behind a lead shield and the core removed. This took the form of a cylinder 6 cm long, 2½ cm diameter, having the appearance of a hollow lime or ceramic cylinder. The emission from this component was over 50 mr./hr. at 30 cm. distance. The core was placed in a lead container for disposal according to the Atomic Energy Commission methods.

The outer container has been decontaminated and placed on display in the Medical Museum at University Hospital.

The local newspaper was contacted and a short article was printed pointing out the danger of such an object being discovered and unnecessary exposure resulting. This was the second such device examined by the Radiation Safety Officer at U.W.O. in a two month period, and that might suggest that other such containers or radioactive sources are still in storage in private houses. However, the appearance and manufacture of these two were sufficiently dissimilar to make it very difficult to provide the public with a description of what they should be on the look out for.

It is thought that physicians in the early part of this century carried radioactive sources for therapeutic purposes. The long-term effects of such practice upon the physicians could only be assessed by an intensive retrospective cohort study; an extremely interesting project.

## Next issue

**1981 Conference:** A summary of the 1981 Conference addresses will be given, a matter of record and for those members who did not get the opportunity to attend. A request is made for reviews of speakers topics or just a synopsis. Your views are important.

**Part Three Rodent Quiz** the second installment of our Rodent quiz provided by Pamela Cook will be included. Your knowledge of the house mouse will be tested.

**Guest Editorial** your opinions are valuable. Comments referring to the articles seen in this and past issues are good material to draw from. Length can vary from 200 - 1500 words. **What do you think?**

**Glimpses of Past** is a regular column on past experiences in public health, historical or personal. Contributors are needed!

What were the controversial issues in Public Health 10, 20, 25 years ago. What diseases were prominent? How are investigations different today? Many members have a wealth of knowledge, please share it. Public Health is not boring

A request is also made for topic theme you would like to see covered in future issues.

# DEADLINE

for the

## WINTER ISSUE

# November 15

For articles and information

# A survivor of 350 million years

**EDITOR'S NOTE:** There are many things which continually remind us of the need for public health principles. Pamela Cook has submitted some material about a beastie that's survived for 350 million years, can withstand atomic radiation, and dines out on soap, grease and commands grudging respect. **SUPERMAN? No, Cockroaches.** Following is an excerpt from the article included in the "Cockroach Combat Manual" written by Dr. Austin M. Frishman and Arthur P. Schwartz. Here's how to defeat the abominable bug so cupboards and crannies are finally pestfree!

## Cockroach manual

### What do cockroaches eat?

Almost anything, and it doesn't take too much to keep them happily fed. A thin layer of grease on a piece of steel is sufficient. It is virtually impossible to starve a roach in locations where people live or process food. Cockroaches will eat bread, fruit, crackers, grease, sweets, vegetables, dog food, garbage, beer, marijuana, cigarettes, and cereal, to name just a few roach delicacies. They will even eat paper, although we do not know how much nourishment they derive from this. If roaches are confined to a cage, they will become cannibalistic and eat each other.

### How long can a cockroach survive without eating?

The bigger the roach, the longer it can go without eating. Of the four major household species of cockroaches, the larger American roach can go three weeks without food or water. So-called German cockroaches are smaller and can last two weeks.

### Why do cockroaches come out at night and where do they go during the day?

Through evolution, cockroaches that were active at night survived and those that were active during the day perished from predators. Cockroaches have developed negative phototropism (which means they seek out darkness and try to avoid light). During the day they hide in cracks and crevices.

### Where do cockroaches live?

Cockroaches prefer to form pockets together in locations close to food and water and where it is dark. The South American cockroach (the Palmetto bug) hides in the dark areas of plants, such as under leaves. The German strain prefers a feeling of tightness and therefore favors smaller cracks and crevices, while American cockroaches sometimes hang on the wall in the dark. German cockroaches also prefer to group together on surfaces like wood, cardboard, or paper (for example, wall calendars) that their fecal matter will adhere to. Their faces appear as small black specks, which are a good indication of their presence.

### Is there such a thing as an albino cockroach?

No, but what you will see quite often is a white cockroach that has just molted (shed its skin). The German cockroach molts six or seven times during the first two months of its life, and the American cockroach molts nineteenth times during its first 400 days. When cockroaches shed their skins, they will appear white or albino. Although very tiny and difficult to see or locate, the newly emerged baby cockroaches (called nymphs) are white. Within several hours they will darken, however.

### Do cockroaches protect their young?

No. They have no parental instincts, and the female German cockroach is the only one that will carry its egg capsule until it is ready to hatch.

### Do cockroaches eat their young?

Normally they don't but will if they are hungry enough.

### Why do cockroaches group together?

In the laboratory we have been able to show that when cockroaches are isolated in individual chambers, the rate of survival is lower and the time to reach adulthood is longer. The benefit of a group effect can only be speculated on. However, it is suggested that by grouping together, cockroaches create a "microenvironment" most suitable for their survival in terms of maintaining an ideal relative humidity.

### What can I do to decrease the number of cockroaches coming from a neighbor apartment?

Stuff steel wool or other flexible material into holes around pipes from adjoining walls, floors, and ceilings. Try to get your neighbor to co-operate with the professional pest-control technician contracted to do the apartment building (if such a service exists).

### I left my coffee cup on the kitchen counter half-filled with coffee. The following morning I found a dead roach floating in it. How did it get there?

The cockroach's antennae were able to detect the odor and moisture emitted from the surface of the coffee. The roach climbed in to the cup in search of food and/or water, hoping to get a good foothold. He fell in, could not get out, and drowned. Cockroaches can swim, but eventually they must be able to pull themselves up onto "dry land."

### Do cockroaches bite people?

Cockroaches have chewing mouth parts, and, in some cases where there are heavy infestations, we have seen them feed on human sores, remove eyelashes, and nibble on finger- and toenails. But these situations are not everyday events. They occur only if the roaches are allowed to build up over a long period of time.

### Why haven't cockroaches developed resistance to boric acid?

To date, cockroaches, after exposure to various organic synthetic (man-made carbon products) insecticides over many generations, have exhibited genetic resistance to them. These insects develop biochemical pathways to detoxify or neutralize the pesticide. Boric acid is not an organic synthetic. It works on different systems of the cockroach, thereby making resistance to it more difficult—boric acid is both a stomach and a contact poison.

### What are the control methods of the future?

We look to a pest-management approach whereby sanitation and the elimination of favorable roach harborages will play a major role and pesticides a minor one. We also look forward to chemical formulations that will interfere with the roach's prolific reproduction process.

### How long do cockroaches live?

German cockroaches can live up to a year. American and Oriental cockroaches can survive for two years or longer.

### Is it true that cockroaches can withstand atomic radiation?

Cockroaches are able to survive exposure to radiation levels far in excess of what man can withstand.

### How old are cockroaches?

Cockroaches have roamed the surface of the earth for about 350 million years. Today's roaches look very much like their ancestors. Fossil records have documented this.

### What are some of the more common pesticides effective against cockroaches that I can buy at the supermarket?

As a rule of thumb, the chemical formulation should contain either diazinon, Baygon, or dursband.

When you are looking to purchase an effective pesticide for cockroaches and are reviewing the label, there are two items to look for:

Please turn to page 8

# Cockroaches as survivors

Continued from page 7

1. A statement that the percentage of active ingredients is somewhere between 1/2 percent and 1 percent for diazinon and Baygon, and between 1/4 percent and 1/2 percent for dursban.

2. When purchasing an aerosol pesticide, look for a petroleum distillate content of less than 16 percent, with as low a content as possible. If you use aerosols with more than a 16 percent concentrate, you are playing with a flamethrower, which might blow up if it comes into contact with an open fire.

### What are pesticide bombs and how do they work?

The term usually refers to a one-shot treatment whereby the full contents of an aerosol container are released into an open space. The small pesticide droplets float into the spaces where cockroaches hide and kill them on contact.

Read the instructions on the label carefully because you will

have to take additional precautionary measures, including leaving your home for several hours, turning off air conditioners and fans, sealing air vents and other openings, and removing pets and fish tanks. On large fish tanks pull the plug of the aerator and seal up the top of the tank. About an hour after the room has been aired out, the aerator for the fishtank should be replugged.

### Should I use roach traps such as Roach Motel?

These commercial devices will catch cockroaches but will not eliminate the entire population and also appear not to be effective against the small, immature cockroaches. However, these traps are often helpful to use near pet cages (of gerbils, snakes, hamsters, birds, rabbits, etc.) where it is inadvisable to expose the animals to pesticides. These devices can often prove valuable indicators to ascertain whether a certain area of the home is infested with roaches.

---

## How well do you know rodents ?

**EDITOR'S NOTE:** Time to tune up your brains. We have a quiz to test your knowledge on Rodents. Pamela Cook has again used her ingenuity to obtain material for the following quiz and two

more quizzes will be included in upcoming issues. The material is taken from 'The Rodent Handbook', Austin M. Frishman, PhD. Answers appear elsewhere in this issue.

### Rodents In General

1. Rodents have guard hairs which are large and coarse? TRUE/FALSE
2. Rodent faeces all contain .....
3. How does the shape of mouse droppings differ from that of rats? .....
4. How can you tell if the rodent faeces are fresh? .....
5. All rodents are incapable of vomiting? TRUE/FALSE

### Norway Rats

1. Rodents must gnaw to keep their teeth from growing too long. TRUE/FALSE
2. Norway rats are good swimmers. TRUE/FALSE
3. Norway rats rapidly decline due to weakness if they do not get water within 24-48 hours. TRUE/FALSE
4. A rat can drop 50 feet without being killed. true/false
5. Rats travel along regular runways and are creatures of habit. TRUE/FALSE
6. Rats sometimes leave "grease" marks on walls which are body secretions. TRUE/FALSE
7. Rats eat about one pound of food every day. TRUE/FALSE
8. Rodent faecal pellets contain at least one hair. TRUE/FALSE
9. A young rat can squeeze through a hole the size of a quarter. TRUE/FALSE

10. Rats sometimes leave tail trails on dusty floors. TRUE/FALSE
11. Rats can lick the dew off of grass to get enough liquid. TRUE/FALSE
12. Rats have been known to swim up toilet bowls as a means of entering a house. TRUE/FALSE
13. Some rats will be seen during the day due to a shortage of food. TRUE/FALSE.
14. Rats can gnaw through galvanized steel. TRUE/FALSE
15. Rats can gnaw through cement. TRUE/FALSE.
16. Fresh droppings are soft, shiny and dark. TRUE/FALSE
17. Rodent droppings harden within a few days. TRUE/FALSE
18. Some rats can swim for up to three days without drowning. TRUE/FALSE
19. There are an equal number of toes on a rat's front and back feet. TRUE/FALSE
20. Rats can make nest in planters in restaurants. TRUE/FALSE.
21. Number of litters per year.
22. Gestation period (length of time pregnant) .....
23. How often do rats eat? .....
24. How can you determine how many rats are present in an area? .....

# Rat infestation signs

The following table will assist you in determining the degree of infestation. The table converts signs of rat infestation into degree of infestation. This table was prepared by the United States Army Medical Service School. As a rule of thumb, it is

helpful, but not always accurate. Rats have a method of adjusting to human behaviour and if necessary will show few rodent signs.

Rat Signs Observed	Light 1-20	Medium 21-50	Heavy Over 50
Tracks	Few to moderate in number; usually all of one size.	Moderate to many; usually of two or more distinct sizes.	Many; two or more sizes, runways in dusty areas usually slick and not dusty.
Fresh Droppings	None of few groups observed all of the same size.	Some always observable in two to six or eight areas; usually two distinct areas.	Many; usually of several sizes, small to large and in at least six locations.
Active Runs	None or few and relatively indistinct.	Several distinct; one or more indicating heavy travel.	Many; more than one heavily travelled run.
Fresh Gnawing	None to few nightly	Usually several instances nightly	Many instances nightly.
Live Rats Seen	None by day except on clean-up and harbourage removal.	None to two by day unless harbourage is opened up.	Often one or more seen by quite close observation in daytime.

# Asbestos

## The past exploiting future human health

By K.D. Seeger

"Asbestos, a health hazard? Why I suppose, (hack, hack cough), it is no more a, (cough) hazard than any of the other so called hazardous products, (wheez) on the market." The old timer continued with his argument, stopping frequently to catch his breath. "Close the plant? That will never happen, because that plant is the heart of this, wheez, cough, town. Without it there would be no jobs and, hack, cough and no town." "My cough? Oh, wheez, everyone my age has that, even the women. I guess its just a sign of old age." Even though the previous statements were fabricated, it is probable that opinions which are similar have been expressed many times in many different one industry towns. Human health in the past has been compromised when cost/benefit studies are made. It seems to take more than an occasional death and multiple cases of common illnesses to change the attitude of an industry in favour of maintaining human health.

Evidence documenting the hazards of asbestos in the last 800 years has not been sufficient to produce a safe substitute which is of equal value, as diverse, in its use and as economical. However, the asbestos issue has recently flared up again enough to create a Royal Commission, with a mandate to recommend changes in the use of asbestos and provide compensation for persons experiencing symptoms of asbestosis and related diseases.

As early as the 1st century AD, the Greek geographer Straber reported that slaves who wove asbestos into prized robes and burial garments for nobility suffered from a "breathing sickness." In 12th century Europe, Charlemagne's banquet guests were treated to amazing displays of asbestos.

These questions and many more will be considered before the hearings are completed.

During the second public meeting of the Royal Commission on Asbestos, both sides of the issue were represented. One industry spokesman claimed that "existing criticism of asbestos as a health hazard is related to the period preceding 1960, before the presence of excessive asbestos dust in the air over a long period of time became scientifically and medically documented as a possible health hazard, and before adequate protective equipment was available." (1)

Another portion of the second meeting was spent familiarizing the commission members on the 'schools programme' for detecting and controlling asbestos in Ontario. Realization of the hazardous nature of asbestos use in schools began in 1968 when the Ministry of Education became concerned about students' health resulting from the use of asbestos in art materials. A request to discontinue its use was made and a complete ban came into effect in 1974. The recent blitz, (1979) made for the removal or encapsulation, found that asbestos materials were widely used in construction and were found in educational buildings in sprayed asbestos fireproofing; thermal and acoustic insulation; asbestos cement pipes, siding; and shingles; vinyl asbestos tile; paints and joint fillers; fire blankets and curtains; and moulded plastic products.

The result of the survey requested by the ministry to identify asbestos hazards in educational buildings found that about six percent of the province's schools contained friable asbestos and six percent contained non friable asbestos materials. Educational

# The past exploiting future health

Continued from page 10

"generally indicate that asbestosis has rarely been found in the general population and is not considered a public health risk."

## CONTROL AND MONITORING

In June of 1980 a report on the asbestos problem in Toronto, was presented to the Toronto Board of Health. The report was prepared jointly by Jim Flaherty, of the Food Control and Sanitation Division, and Lynn Elinson, Linda Rosenbaum and Trevor Hancock of the Program Support and Advocacy Unit. The Health Advocacy Unit is a division of the Toronto Health Department which promotes current programmes benefitting citizens and creating more awareness of public health issues.

The report outlines a systematic approach on controlling and monitoring the use of asbestos in buildings located in the city. Asbestos has had its greatest use in the construction industry, where it was used in spray insulation to fireproof structural steel against warping or fracturing in the heat of an intense fire, in shingles, interior and exterior wallboards, insulation of water pipes, in paints, putties, caulking, drywall, plaster, and sealing. The report emphasizes that "only certain forms of asbestos have the potential for deleterious health effects."

"Vinyl and asphalt asbestos floor tiles, asbestos roofing materials, and asbestos cement sheets, for example, all contain asbestos in a locked-in form." However, "asbestos which was sprayed on hot water pipes, boilers, and ceilings can become friable (crumbly). When this happens, asbestos fibres can be released in the air and inhaled by those who are exposed! (3)

The inspection of buildings would appear to be a high priority for public health, the report recommends. A crumbling asbestos ceiling in a high traffic flow area of a building would increase potential for endangering the health of a large number of people. Knowing the type of building, the number of people exposed to asbestos, the age of the building, and the age of those exposed would assist in deciding which buildings to inspect first. The Advocacy Unit recommends that a commitment needs to be made, similar to that of the Boards of Education, to inspect all buildings, especially public buildings for potential asbestos hazards.

A priority building would be one that houses day-care centres, hospitals, libraries etc. Buildings built after 1973 would not be expected to have asbestos sprayed ceilings and the hazard is greatly reduced as compared to a building constructed before.

## SOBERING COMMENTS

As mentioned earlier, the asbestos issue has existed for many years and numerous studies and reports have been made. The recently formed Royal Commission was established due to public pressure and hopefully, in an attempt to find solutions to decreasing asbestos exposure from existing products. Dr. E.K. Fitzgerald, M.O.H., Scarborough, summed up his feelings on one of the commission's roles by commenting, "I think they (the Commission) will bring to the subject of asbestos a degree of common sense... needed more than anything else; as well as some method of cutting through the hyperbole and the anxiety that has been created through various sources; and possibly they may even have the strength to cut through some of the political motivations that have prompted a lot that has gone on in the last year."

Dr. Fitzgerald spoke about the importance of checking the exterior, ambient air in assessing asbestos problems before undertaking expensive cleanup operations. He told how, in 1975, on checking asbestos levels at a Johns-Mansville plant, the levels outside, within 100 to 200 yards of the plant, were found to be no different than those in downtown Toronto and in several other cities and towns checked. "People, I think are being too emotional, and too political; and are quick to spend money on a problem before they've really identified they've got a problem

and that the action they're going to take will cure it." (4)

An article written by Irving J. Selikoff, M.D., on Asbestos in the e.n.d. (environment news digest, March - April 1980), stated that the public health significance from the use of asbestos may not be truly realized for twenty years or more because the symptoms of asbestosis may be latent for that long. Dr. Selikoff's epilogue in his article provides an excellent final comment.

## Epilogue

"When health risks of asbestos exposure were identified in the first years of this century, a bargain was made. We would not ban the material; rather, recognizing the hazard, it would be controlled. That agreement was not kept. We will now, and for the next 50 years, live with the serious consequences of that failure.

At the least, those who have suffered and will suffer most from this failure deserve immediate and urgent amends. Medical care and treatment should be readily available to all who need it and the research agencies should encourage study of methods for earlier diagnosis and improved disease management. Financial help for those injured, or their survivors, to make their remaining days more livable, is needed, and just. Further asbestos exposure should be prevented, to avoid adding to the burdens of those already exposed and to prevent lengthening the lists of those for whom we shall be concerned in the future. Our skillful engineers should be asked to develop effective measures for maintenance, repair, demolition, waste disposal. These thorny problems can be solved.

It has been and will be an expensive lesson. One may hope, however, that it will not have been in vain and that we will learn from it that public health controls are not measures merely of convenience or economic benefit, but the essence for the bargain we make with technological advance."

## References and Further Reading

1. Proceedings of the Ontario Royal Commission on Asbestos, First Public Meeting October 31, 1980, pg. 29, Queens Printer.
2. *Ibid* Pg. 25
3. "A Systematic Approach to the Asbestos Problem in Toronto," June 10, 1980. A report to the Toronto Board of Health prepared from a study by the Health Advocacy Unit of the Public Health Department, of Toronto
4. *Ibid* (1) pg. 38
5. "Effects of Asbestos in the Canadian Environment from the Associate Committee on Scientific Criteria for Environmental Quality of the National Research Council of Canada, 1979.
6. Rajhans G.S. and Bragg, G.M.: Engineering Aspects of Asbestos Dust Control. Ann Arbor Science Publishers Inc., Ann Arbor, Michigan, 1978.
7. Ontario Ministry of Labour (1976): Asbestos. Occupational Health Branch, Data Sheet No. 18.
8. Selikoff, I.K.; Churg, J.; Hammond, E.C., (1964): Asbestos Exposure and Neoplasia. *Jama*, 188, 22.
9. Doll, R., (1955): Mortality from Lung Cancer in Asbestos Workers. *British Journal of Industrial Medicine*, 12, 81-86.
10. Selikoff, I.J.; Hammond, E.C.; Seidman, H., (1979): Mortality Experience of Insulation Workers in the United States and Canada 1943-1976. In: Selikoff, I.J. and Hammond, E.C. (Eds.), *Health Hazards of Asbestos*. Annals of the New York Academy of Science, New York, 1979, 91-116.

**Have you signed up  
a new member yet?**

# Who is exposed to Asbestos?

The list of exposed workers is very long, but the large number of exposed workers includes:

Air Filtration system workers  
 Asbestos cement pipe makers, cement sheet makers, cement shingle makers, shingle and board makers, friction product makers, filter makers, rock miners, truckers, millers, weavers, paper workers, felt insulation workers, insulators, tube wrappers, loaders, crushers, spinners, asphalt makers, and cork insulation workers  
 Automobile mechanics  
 Barge builders

Brake and clutch lining makers and repairers  
 Burial vault builders  
 Carpenters  
 Chemical workers  
 Cosmetic workers  
 Concrete runway builders  
 Construction workers  
 Dam builders  
 Drain tile makers  
 Electrical appliance and wire makers  
 Fireproofers  
 Garage workers  
 Heat insulation makers  
 Masons

Oil refinery workers  
 Oil well builders  
 Paint makers  
 Pier builders  
 Pipe and furnace fitters  
 Plastics makers  
 Post makers  
 Pump packers  
 Putty makers  
 Reservoir builders  
 Road constr. workers  
 Rubber workers  
 Shingle and tire makers  
 Shipyard workers  
 Sidewalk builders  
 Silo builders

Smokestack builders  
 Sound insulation makers  
 Stadium builders  
 Storage tank builders  
 Swimming pool builders  
 Talc miners and workers  
 Tunnel builders  
 Vinyl asbestos tile makers  
 Water pipe makers  
 Welders

This material is excerpted from *The Magic and Deadly Dust*, published by Ontario Research Group, 121 Avenue Rd., Toronto. Submitted by Pamela Cook.

## CONSUMER USES OF ASBESTOS

Aprons		
Arm protectors		
Bags		
Blankets		
Blocks		
Boards and shingles		
Bonded pipe		
Braid		
Brake lining	Insulation	
Caps	Lagging	
Cards	Legging	
Cement boards	Lining	
Cement partitions	Lumber	
Cement roofing	Mats	
Cement sewer pipe	Metallic cloth	
Cement tile	Millboards	
Cements	Mittens	
Cloth	Overgaiters	
Clothing	Packed corrugated metal	
Coating	gaskets	
Cords	Packing	
Corrugated roofing	Pads & covers	
Corrugated sheets	Paints	
Covered cables	Panels	
Covered hose	Paper paste	
Covered wire	Pipe & boiler covers	
Covers	Plastic shingles	
Curtains (theater)	Pot & pan holders	
Discs	Powder	Suits
Fabrics	Protected metals	Table padding
Felt	Ribbons	Tapes
Fiber & cement pipe	Rings	Textiles
Fillers	Roof covering	Thread
Filtering materials	Roof ventilators	Tubing & tubes
Filters	Rope	Twine
Flooring	Scrap	Wallboard
Gaskets	Sheathing	Wicking
Gloves	Sheets	Wire
Hats	Siding	Wood
Helmets	Sleeving	Wool
Hoods	Stove linings	Working machy
Insulated cables	Stove mats	Yarns

## Rodent answers

### Rodents in General

1. True
2. Rodent hairs.
3. Mouse droppings are pointed on both ends. Rat droppings are blunt on one end.
4. They glisten and are soft. Old droppings are hard and crusty.
5. True.

### Norway Rats

1. True
2. True
3. True
4. True
5. True
6. True
7. False, about 3 ozs.
8. True
9. True
10. True
11. True
12. True
13. True
14. False, therefore lids should be kept on galvanized cans.
15. True
16. True
17. True
18. True
19. False, there are five toes on rear feet and four on front feet.
20. True, soil is the rats natural habitat
21. Five to seven.
22. 28 days.
23. Rats prefer to eat at night. Some experts feel they feed twice during the night, once shortly after dark and again in the early morning. Rats prefer to eat in one place and differ from mice who eat many times in one evening.
24. This is extremely difficult. You begin by looking for rodents and rodent signs including burrows, trails, gnaw marks, hair urine tracks and odour. The use of a black light for urine and hair, and flour for tracks will help in determining the relative number of rats present.

# Asbestos:

## Assessing the quality of scientific evidence

**EDITORS NOTE:** Dr. David Muir, Director, Occupational Health Program, at McMaster University, prepared a paper for the Royal Commission on Asbestos, at the second public meeting on December 12, 1980. The text of that paper follows. Dr. Muir will also be speaking at the CIPHI Ontario Branch conference in North York.

*By Dr. Muir*

The Royal Commission on Asbestos has asked me to consider the quality of evidence in relation to four specific questions. These are as follows:

- (a) What is the shape of the dose response curve for the health effects of asbestos exposure?
- (B) Is there a threshold?
- (c) Is there a safe threshold?
- (d) How big is the health improvement from policy-induced reductions in exposure in the workplace or in public buildings?

I believe it will be helpful to confirm, in the first instance, that there is indeed a relationship between the intensity and duration of exposure and the health risk. The evidence for this is overwhelming and almost self-evident. The reason for emphasizing this point is that it has clear implications for the definition of health public policy. It is difficult to resist the proposal that any unnecessary exposure should be avoided. If this Commission identifies some airborne level at the workplace to be used for control purposes when work practices designed to reduce exposure still further would appear to be eminently desirable and should be identified clearly as such. This idea of emphasizing "good housekeeping" is likely to be of increasing value when we come to consider exposure in the public domain. Airborne fibre levels in such situations are generally an order of magnitude or more below such encountered in industries manufacturing asbestos products. I am unable to find evidence relating exposure to health at these low levels of airborne asbestos and doubt whether measurements of the airborne fibre concentrations contribute information of practical value. The measurements themselves are exceedingly difficult to undertake and more difficult still to interpret.

The specific questions posed by the Commission form the central core of information required to frame policy. In attempting to obtain answers which will find wide acceptance in the community some fundamental difficulties must be resolved.

By far the most important of these difficulties is the fact that disease currently attributed to asbestos had its origins in exposure many years ago. This is particularly so with respect to mesothelioma. We have little or no evidence on the environmental conditions existing twenty to forty years ago although a number of estimates have been made and have been used in epidemiological analyses. While there can be little doubt that dust conditions were considerably higher before the introduction of control measures it may legitimately be asked whether these estimates are robust enough to serve for complex mathematical model building of the type popular with some epidemiologists.

The second major problem is to separate risks associated with different types of fibre. No doubt the Commission will be considering this aspect in detail and will have to decide whether there is some specific risk caused by amphibole fibre or whether the apparent special problems with these minerals stem from more intense airborne fibre levels associated with their use in previous years. If specific effects due to the type of fibre are

accepted then it becomes of considerable importance to identify the type of asbestos used in individual industries in the past. This is surprisingly difficult to achieve. A number of epidemiological claims have had to be modified after initial analysis when later evidence suggested that varying amounts of mixed fibres had been used but which did not appear on the main company records. This type of information may sometimes be more accurately obtained from the shop floor than from the accounting office.

The problem is even more complex than it appears. The evidence against crocidolite is sufficiently consistent that, if the Commission identifies a level for chrysotile to be used for monitoring in the workplace, then it is probable that there will be a good deal of support for the proposal that some yet lower level be required for amphiboles. In addition to this, however, there is an obvious problem in comparing the health experience of chrysotile miners in Quebec with insulation workers in New York. Assuming that estimates of previous exposure in the epidemiological studies concerned are relatively accurate then there appears to be very strong evidence that the health risk, as measured by generally used methods, depends on the specific industrial situation. This is almost certainly what common sense would predict. The size distribution of the fibres in the total airborne state varies according to the industrial process and is well-known to so vary. It would be as unreasonable to assume that the health effect is unrelated to this variation as it is to assume that all asbestos species are biologically identical. The practical and economic importance of this is considerable to Canada. The apparent lack of health effects claimed for chrysotile workers in Quebec at relatively high levels of exposure is remarkable. We need to know why there was such a large contrast in their mortality experience compared to insulation workers.

Any epidemiological evidence presented in this difficult field requires critical analysis according to the concepts eloquently formulated by Dr. Sackett. Surveys conducted on selected groups of workers are more than useless and indeed are positively harmful as a result of the misleading information which they generate. Since asbestos-related diseases do not generally occur until many years after exposure begins and may appear many years after exposure ceases, then appropriate analytical strategies must be used. This implies following all exposed workers and studying their health experience in relation to exposure levels and time since onset of exposure.

Some of the asbestos literature does not accord with these concepts. The Commission could perform a valuable service by analyzing the available information according to its acceptability in modern epidemiological terms.

A major contribution could be made also by placing confidence limits on estimated exposure indices. When measurements are available these are often very approximate but are likely to be better than nothing. When no measurements at all are available, it is not unusual to discuss the problem with long-term employees and to obtain some opinion as to what it was like in "the old days". These early estimates have a considerable influence on the analytical results and any method of assessing their reliability would be invaluable. There is an enormous variation in the estimates of previous exposures. This leads to one argument to the effect that present disease levels were caused by very high levels of dust exposure many years ago; that current levels are trivial by comparison and may therefore be viewed as relatively

# Assessing the quality of scientific evidence

Continued from page 13

harmless. Another view claims that previous dust levels were not as high as all that and that dust levels currently prevalent are unacceptable. Hopefully, the Commission will undertake this review mindful of the possibility, indeed the probability, that any estimates of fibre exposure and of health effects are likely to be species-specific and to be industry-specific.

These analytical constraints suggest that replies to the questions posed by the Commission must be presented in a very conditional form since they are based on very limited published information relating mainly to chrysotile.

## DOSE RESPONSE CURVE

As far as asbestos and lung cancer are concerned, the evidence suggests that a linear dose-response relationship fits the data as well as anything. The choice of such a relationship having a zero intercept is to some extent a matter of mathematical convenience and may not necessarily describe the true biological response. It is difficult to extrapolate with confidence from the health effects observed at fairly high dust levels in order to predict the health outcome in workers exposed to dust levels outside the observed range. The fact that the intercept is at zero does not constitute evidence that very low levels necessarily represent a major health problem. In the same way, the fact that a given set of data may fit a line with a positive intercept is hardly good evidence that a so-called safe level can be identified. The value of fitting a dose-response curve lies in confirming that reducing dust levels is likely to have health benefits, and that low level exposure is likely to result in low level mortality.

The only really acceptable evidence of a no response or completely safe level must be based on observations of groups of workers who have been exposed to measured levels and who have been followed for sufficient time. In the chrysotile mining industry, it appears that remarkably high fibre exposure levels do not result in a detectably increased mortality. Much lower chrysotile levels certainly do appear to cause measureable mortality and morbidity in the fabricating and insulation industries, and the Commission will no doubt take these remarkable findings into careful consideration.

There is little evidence available to describe the dose-response relationships between asbestos exposure and the production of mesothelioma. It seems certain that there is an overall effect such that heavy exposure is more likely to cause mesothelioma and that this effect is species-specific. No zero effect has been identified but, again, this does not exclude the possibility that such a threshold may exist.

The real difficulty throughout the whole analysis is a lack of a reliable data concerning the health effects of low level exposure. The confidence limits of the data are so wide that firm prediction are unlikely to be well-founded no matter who makes them. Some uncertainty would appear to be the most appropriate position. This uncertainty should not inhibit the decision-making process, but it is a good start to separate clearly between those things we really do know and those things which we do not.

Because of the uncertainties about the consequences of atmospheric contamination with asbestos, it is hardly possible to estimate the size of the health improvement from policy-induced reductions in exposures. It is possible to make some broad generalizations about the relationship between the amount of effort involved in reducing exposures and the scale of improvement in health to be expected. In general terms, it is relatively easy to control gross airborne contamination in industry. It is difficult to refute the suggestion that earlier acknowledgement that asbestos was a dangerous substance requiring serious attention and control would have made today's Commission unnecessary. Probably we would be at some conference arguing as to whether asbestos was a health hazard or not. It is more than likely that a similar pragmatic approach would

be of most benefit in the public domain. Rapid attention to the more obvious sources of contamination as determined by visual inspection taking due account of the type of fibre is likely to be beneficial. Attempts to initiate action according to airborne sampling results are less likely to be based on genuinely useful criteria despite the attractions that numbers have to regulatory agencies.

## SAFE THRESHOLD?

It is evident that further information is required before reliable answers can be provided for the questions presented by the Commission. If asbestos is going to continue to be used, then careful long-term observations will be required. The most important observations relate to the measurement and characterization of airborne fibres. These must be taken so that individual exposures can be calculated. They must be taken so that the relation between standard counting techniques and total airborne fibre concentrations can be determined for each job category or work process.

In formulating regulations or proposals it should not be forgotten that the health benefit of any standard is likely to be related to the compliance with that standard on a day-to-day basis in the work place. Ninety-five percent confidence that no worker will be exposed to greater than a certain fibre level may well have greater health benefits than 50% confidence in relation to some more rigid levels. This concept must take account of the reliability of individual measurements, of the frequency and strategy of sampling schedules, and of the credibility with which the limits really will be observed in industry. Defining very rigid standards which are ignored appears to be an exercise in futility for all concerned.

It is clear that the key questions posed by the Commission are, in large part, unanswerable, but we can start to define certain boundaries and to use these boundaries both to make decisions and to pose the correct research questions.

One key administrative mechanism has to be solved. It will be appreciated that asbestos is a complex group for substances. Even the species which I have mentioned vary considerably within themselves. Chrysotile, for example, varies greatly from one rock formation to another. It may be as unreasonable to assume that these different types of chrysotile have identical health effects as it is to assume that chrysotile mining in Quebec has the same health consequences as chrysotile insulation in Ontario. Long-term accumulation of knowledge by committed individuals will be required if solutions to these problems are to be forthcoming. Very considerable effort is required to find out more about exposure levels and to characterize the airborne fibres in very great detail. This is perhaps the most important area requiring sustained research effort.

**Count yourself in**

**PAY YOUR DUES**

To Treasurer

Mike Gravel

R.R. 11

Peterborough Ontario

K9J 6Y3

# Some substitutes

**TABLE 3**

**Editors Note:** The following is excerpted from the report to the Toronto Board of Health entitled a Systematic Approach to the Asbestos Problem in Toronto.

Because of the inherent dangers of asbestos, attempts are being made to develop safe and useful substitutes

The difficulty, however, is finding a substitute which is as useful as asbestos in both fireproofing and insulation, and which also does not possess its own set of health hazards.

Asbestos-Containing Materials	Alternative	Comments
Molded Asbestos High Temperature Insulation Block	None Vermiculite alumina cement block	A suitable alternative Satisfactory for small areas
Plastics Compositions	Asbestos-free versions of magnesia and calcium silicate	
Sprayed Asbestos and Asbestos Mineral Wool	1. Sprayed mineral wool 2. Sprayed ceramic fibres 3. Sprayed vermiculite cement and sprayed concrete	1. In develop- mental stages 2. Expensive 3. For fireproof- ing
Board and Sheet Rope	Ceramic fibre- board and sheet 1. Glass Fibre rope 2. Ceramic fibre rope 3. Silica fibre rope 4. Ceramic fibre felt strip	Expensive ----- Expensive Expensive -----
Cloth, tape, string, yarn	1. Glass fibre fabrics and yarn 2. Ceramic fibre and yarn 3. Silica fibre and yarn	1. Cloth may be unpleasant to handle 2. Expensive 3. Very expensive

## Education Survey

Is there interest in long term professional development in the Public Health Inspection Field?

Please complete and return to:  
**Pamela L. Cook, C.P.H.I. [C]**  
 Education Chairman,  
 C.I.P.H.I. [Ontario Branch],  
 448 Victoria Park Avenue,  
 Toronto, Ontario, M4E 3T2

(It is not necessary to identify oneself, but the education information is important).

NAME: .....

ADDRESS: .....

Tel. No.: .....

Education: .....

(i.e. Certificates, Degrees, etc., please list in long form)

1. Are you interested in long term professional development in the public health inspection field?

YES/NO

2. Would you like to see professional development in the province handled by:  
 Ryerson Polytechnical Institute .....  
 C.I.P.H.I. (Ontario Branch) .....

Ryerson in conjunction with the Branch...

3. Would you like to see professional development handled in co-operation with the other provinces to provide more uniform development across the country?  
 YES/NO

4. Time involvement for professional development programs.  
 One Day  
 Two Day  
 Week Long (i.e. Ryerson credit course, intensive study)

5. Would you like to see one day sessions in local areas if arrangements can be made to do so?  
 YES/NO

6. Please list and elaborate if possible, the particular topics you would like to see presented.

7. Additional comments in regards to professional development. (attach additional paper if needed.)

Submitted by: Pamela Cook, Jim Stone  
 Chairpersons, Branch Education Committee

Give this application form to a fellow PHI and ask him to join today.

APPLICATION FORM

CANADIAN INSTITUTE OF PUBLIC HEALTH INSPECTORS

Incorporated

Send application to:

MIKE GRAVEL
SECRETARY-TREASURER
RR # 11
PETERBOROUGH, ONTARIO
K9J 6Y3



or

C.I.P.H.I.
BRIAN HATTON
1975 CARIBOU COURT
SUDBURY, ONTARIO
P3A 4W6

I hereby make application for Active Membership ( ), Student Membership ( ) in the Canadian Institute of Public Health Inspectors. This application implies that membership is to continue until resignation is tendered, or until membership is discontinued under the conditions contained in the By-laws of the Institute.

Name Surname Print name in full Christian names

Address (for correspondence)

Date of Application Date of Birth

Positions Held

Present employing agency Present Position

Qualifications (Education, Diplomas and Certificates Held, etc.) (Give Dates and Certificate Numbers)

C.P.H.I. (C.) Certificate Number Date

- I enclose \$40.00 in payment of one year's Regular membership fees.
I enclose \$2.00 in payment of one year's STUDENT membership fees.
I enclose \$3.00 in payment of one year's RETIRED membership fees.
I enclose \$45.00 in payment of one year's fees as a new member. \*

Date of Application Signature

\*New Member - one who has never been a regular member.

For Branch Use

I recommend that the above applicant be accepted for membership in the Institute.

Date Branch Signature (Branch Officer)

For National Use

Date of Acceptance for Membership Signature President Canadian Institute of Public Health Inspectors.

Certificate and Lapel Button Mailed to

Record card filed Date

# Notices

October 14-16

**3rd National Conference on Waste Management in Canada**, Loews Westbury Hotel, Toronto, Ont. details from: Chris Banwell, Waste Management Branch, Environment Canada, EPS Ottawa, Ont. K1A 1C8. Tel: (819)997-4334.

November 14

## THIRD ANNUAL SQUASH TOURNAMENT

6:00 p.m.

To be held at the Sherbourne Club

Starting 6 p.m.

555 Sherbourne St.

Toronto, Ontario

Tickets are \$8. for squash and social; and \$5. for social only

Please contact: Fred Taylor

City of Toronto Health

Department 367-7467

November 25

## Quality control in food service operations

Time: 8:30 - 16 30

Place: Park Lane Hotel

186 King Street

Fee: \$25.00

[Includes registration, coffee, & materials]

### Seminar Objectives

On completion of this program the participant will be able to:

1. conduct a hazard analysis and determine critical control points within a food service operation.
2. Identify hazardous foods.
3. Take measures to eliminate hazards within a food service operation.

## CIPHI 50th anniversary

The Canadian Institute of Public Health Inspectors will be celebrating its FIFTIETH anniversary in 1984. To highlight the anniversary the National Executive has decided to develop a fifty year history of the Insitute. Ron de Burger past-President has agreed to prepare such a history and is soliciting help from all members. Any information regarding the "INSTITUTE" per se and development of the Ontario Branch in particular would be appreciated. Contact: Ron de Burger, c/o Ryerson Polytechnical Institute, 50 Gould Street, Toronto, Ont. M5B 1E8.

November 25

## OFPA

Ontario Food Protection Association Seminar:  
Sanitation Training for the Food Industry

Location: Holiday Inn, Dixon Road, Toronto

Cost: \$30:00 (includes lunch)

Non-members welcome.

The purpose of this one day seminar is to bring together a number of people from different fields (retailers, processors, public health, restaurateurs, etc.) to dialogue their experiences in sanitation training in order to aid those present in developing and improving their own sanitation training program within their company.

**Don C. Rishol**, author of "Retail Food Store Sanitation", will be keynote speaker. Don is the Director, Corporate Sanitarian, Chatham Complete Food Centres Inc., (Michigan, U.S.A.) and has been instrumental in developing and implementing a number of food store sanitation programs, the most current being a self-study sanitation program for all new employees at Chatham.

Two of our other speakers are **John Farquhar** from Food Marketing Institute in the U.S. and **Mr. Bernstein** from the Canadian Restaurant Association.

We are currently in the process of confirming speakers from a large food processing company and from one of the Health Units.

A number of booths will be set up so that more extensive coverage of sanitation training will be achieved.

We will keep you informed as more details become available.

Contact: Susan Lymburner, Director, O.F.P.A., 75 Rexdale Blvd. Miracle Food Mart, Rexdale, Ontario 1-416-744-3079.

## Employment opportunity

### Thunder Bay District Health Unit

#### invites

Applicants for the position of Public Health Inspector for the main office in Thunder Bay. The Incumbent will be responsible for Community Health Protection Program in an assigned area.

The position will be a contract appointment for the period of October 1, 1981 to September 30, 1982.

Car is required - Benefits according to C.U.P.E.

Agreement: Salary Range -

1981 - \$19,450 - \$21,650

Jan. 1, 1982 - \$20,850 - \$23,050

#### Send applications to

**J.A. Scott**  
Chief Public Health Inspector  
Thunder Bay District Health Unit  
300 Lillie Street  
Thunder Bay, Ontario  
P.O. Box 1024  
P7C 4X8  
Phone - 807-622-3961.

*Canadian Institute of Public Health Inspectors*

**JOIN US**

**Our Profession needs to  
be heard**

**Sign a colleague today to participate  
in OUR INSTITUTE**

Keeping its members informed through: Education programs, Educational conferences,  
Role expansion research, Salary update. Special projects

BE INFORMED

STAY INFORMED

CIPHI

***ONTARIO BRANCH  
CONFERENCE***

**September 21-25**

**NORTH YORK**

**Challenge and Change in Public Health**

*Topics include: Whirlpool Bacteriology, Rabies, Parasitic Diseases, Dioxins, PCB's*