

David Patriquin  
6165 Murray Place,  
Halifax, Nova Scotia B3H 1R9

April 3, 2014

To: Dr. Robert Strang  
Chief Public Health Officer  
Department of Health and Wellness  
1894 Barrington Street  
Halifax, NS B3J 2R8  
P.O. Box 488, B3J 2R8  
Halifax, NS

Dear Dr Strang,

I am writing to bring to your attention a significant, but-should-be-solvable barrier to Nova Scotians' abilities to protect themselves from lyme disease: in Canada, we cannot purchase permethrin treated clothing (e.g., made of Insect Shield® fabric) or permethrin products to treat (spray) clothing (e.g. Sawyer® Permethrin Clothing Repellent) to repel ticks and other insects because such products are not approved by the Pesticide Management Regulatory Agency (PMRA).

An article in the current MacLean's magazine underscores the threat of this disease: *The truth about Lyme disease*, at <http://www.macleans.ca/society/health/the-truth-about-lyme-disease/> . I know you are fully aware of this issue, but you may not be aware of the clothing options for preventing tick infections.

Permethrin should not be applied directly to skin but binds quite readily to cotton and some other textiles and as such is highly effective against insects including ticks, while posing essentially no hazard to the wearer. Use of such clothing, in combination with application of personal pesticides to exposed skin is advertised as 100% effective in deterring lyme-carrying ticks. Scientific studies might not give it that high a rating but do show very large increases in protection compared to protection with personal pesticides alone.<sup>1</sup> It is used routinely, apparently, by the Canadian Military, and Health Canada

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<sup>1</sup>For example:

Meagan F. Vaughn and Steven R. Meshnick 2011. **Pilot Study Assessing the Effectiveness of Long-Lasting Permethrin-Impregnated Clothing for the Prevention of Tick Bites.** *Vector-Borne and Zoonotic Diseases*. July 2011, 11(7): 869-875.  
doi:10.1089/vbz.2010.0158.

**Results:** Subjects wearing Insect Shield–treated clothing had a 93% reduction ( $p < 0.0001$ ) in the total incidence of tick bites compared to subjects using standard tick bite prevention measures.

**Conclusion:** This study provides preliminary evidence that long-lasting permethrin-impregnated clothing may be highly effective against tick bites.

advises its use for Canadians travelling into areas with insect transmitted diseases such as malaria. While permethrin, a pyrethroid, is highly toxic to invertebrates, it has very little if any toxicity to humans.

In researching the topic, I found a MacLeans Magazine report in 2007 about these products in which it is stated that that products would likely be registered in Canada within months.

**Repelling the insect-repellent hat: there are clothes that keep mosquitoes away. Too bad you can't buy them in Canada** *Jordan Timm Maclean's*. 120.28 (July 23, 2007): p56.

...Griffin hopes to get the all-clear from the PMRA in the next three to six months. In the meantime, however, Canadians hoping for another tool in their battle against biting bugs will have to wait.

Remarkably, such products are still not available in Canada in 2014, and reputable U.S. companies will not ship them to Canada because they are not approved by the PMRA.

I have written the PMRA (attached letters) to ask if they could tell me why these products were apparently not approved in 2007, and whether any applications for approval of similar products are currently being considered. From the PMRA's response:

Permethrin is an active ingredient that is used in many currently registered pesticides. The established use site categories of these currently registered pesticides include WOOD AND WOOD PRODUCTS, TURF, SEWERS, OUTDOOR LIVING AREAS, OUTDOOR SURFACES OF BUILDINGS, ORNAMENTALS (FIELD), NONCROP LAND, INDUSTRIAL ESTABLISHMENTS, FOOD/FEED CROPS (FIELD), FOOD/FEED ESTABLISHMENTS, FARM BUILDINGS, DWELLINGS, AGRICULTURAL. However, clothing other than military or paramilitary is not one of the established use site categories.

In Canada, clothing containing permethrin to repel insects is considered a treated article and may require registration under the PCPA. Any permethrin-based product used to treat clothing would be a pesticide and would require registration with the PMRA before it could be sold, used, manufactured or imported in Canada. The only permethrin-based pesticides currently registered to treat clothing in Canada are for military use.

As the regulatory agency responsible for the registration of pesticides, the PMRA cannot solicit applications for registration from the private sector. However, such pesticides would be registered by the PMRA if the registration requirements are met.

So... how does one go about getting access to such products in Canada? The PMRA is clear that they will take no initiatives – nor apparently do they have any interest in communicating with federal agencies that might take such initiatives.

I have the option as an individual of asking U.S. companies to apply for PMRA approval, and might pursue that but I can't find out *a priori* whether there are already applications in the process, or why previous applications may have been turned down. In any case, as Lyme disease is a growing public health issue, surely health professionals should be the ones pursuing it, and hopefully, would have more clout with our regulatory agencies.

As approval by the PMRA is a federal matter, I have copied previous correspondence with the PMRA to Meghan Leslie (my MP), and to Elizabeth May who has been advocating federal action on Lyme's disease. So far I have had no response or feedback from them.

Not being successful at the federal level, I am hoping that your office might pursue the matter, recognizing that it would still require federal action.

Access to permethrin treated clothing and permethrin products for treating clothing could provide a substantive improvement in Nova Scotian's ability to prevent Lyme infections, and I don't think it would take much promotion to get people using them. Indeed, outdoor-oriented friends who I have told about the products have gone to the U.S. to get them, as I did when I was told about them. I am particularly concerned about children on whom we should not be heaping piles of personal pesticides, but who could wear permethrin treated clothing quite readily and safely.

I appreciate any attention you might give to this matter.

Sincerely,

*David G. Patriquin*

Attached:

- e-mail correspondence with PMRA
- Posts on NatureNS Listserv related to permethrin treated clothing
- Comparing the Effectiveness of Two Mosquito-Repelling Treatments  
(source: [www.textilescience.ca/downloads/Arielle\\_Orteza\\_Report.pdf](http://www.textilescience.ca/downloads/Arielle_Orteza_Report.pdf))
- MacLeans 2007 article

Postscript – how I learned about tick-repellant clothing

I became familiar with this option after taking a round of tetracycline antibiotics, that following my discovery of and removal of an engorged black-legged tick from my belly button. About 5 days earlier, I had been hiking along a power line right-of-way in Worcester Mass. As I do in Nova Scotia when I go into areas where I know there are black-legged ticks, I had taken precautions, wearing light colored pants tucked into my socks and applying DEET to my hands, face etc. I saw ticks on my pantlegs at one point,

brushed them off and later asked my spouse to check me carefully, but we apparently missed this spot or this tick. Back in Halifax, my belly button was getting itchy.. a tick was removed, taken to the Museum and ID'd as a black-legged tick. The Worcester area has a high level of lyme in black-legged ticks, so on the physician's recommendation, I began a 2-week round of tetracycline antibiotics immediately. Towards the end of the 2-week period, I began to get painful rashes where my skin was exposed to the sun. This is not a pleasant antibiotic to take and I am very cognizant of antibiotic resistance issues and ill-effects of antibiotics on "good microbes", so I really did not want to repeat that experience or to get lyme. I was concerned as well about taking young grandchildren on outdoor ventures, and more generally about barriers to people benefitting from "the outdoors". So I made a post on a listserv subscribed to by naturalists asking for the best tick-prevention practices and was told about effective use of the permethrin products and their being available in the U.S. but not in Canada. Subsequently I purchased clothing from the LL Bean store in Freeport, Maine, and a permethrin product for treating clothing from a store in Bangor. I now wear permethrin-treated clothing routinely in any areas where ticks have been reported, or anytime I go into heavy bush in Nova Scotia. Interestingly a Canadian study (included in the attached documents) found that clothing sprayed with a 0.5% permethrin spray retained its effectiveness after 75 cycles of accelerated laundering (versus 6 cycles as advertised) and was similar in its effectiveness to the Insect Shield fabric, which is advertised as retaining effectiveness through 70 washings. The spray-your-own option is much cheaper than buying the pre-treated clothing, so it would be nice to see more studies of this sort.

## Why is permethrin not registered for use on clothing in Canada

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mark as unread



David Patriquin

Sun 7/21/2013 11:03 PM

[show all 3 recipients](#)

To:  Info@hc-sc.gc.ca;

Cc:  megan.leslie@parl.gc.ca;

To PMRA:

I would like to know why permethrin products for treatment of clothing and permethrin treated clothing are not registered for use in Canada.

I live in an area where we have black legged tick carrying lyme disease and would like access to these products. (I have had to take tetracycline antibiotics after removing an engorged black legged tick, not a pleasant experience.)

Permethrin products are used, I believe against lice, even on children, in Canada.. so it is hard to understand why we do not have access to permethrin for treatment of clothing. As well, travel.gc.canada advises use of permethrin on clothing when traveling abroad (<http://travel.gc.ca/travelling/health-safety/insect-bite>), but notes it is not available in Canada.

Various reports indicate that deet products are not sufficient on their own to protect one against this tick, only permethrin treated clothing + deet.

There was a MacLeans report in 2007 about these products in which they said they expected the products to be registered in Canada within months.

See:

[http://www.macleans.ca/science/health/article.jsp?content=20070723\\_107268\\_107268](http://www.macleans.ca/science/health/article.jsp?content=20070723_107268_107268)

Can you tell me the current status of any applications for registration permethrin products for clothing in Canada and otherwise update me?

Thank you

David Patriquin  
Professor of Biology (Retired),  
Dalhousie University

cc: Meghan Leslie, MP for Halifax

## Re: Why is permethrin not registered for use on clothing in Canada

X DELETE ← REPLY ← REPLY ALL → FORWARD ...



Robert P Martin &lt;robert.p.martin@hc-sc.gc.ca&gt; on behalf of PMRA INFOSERV &lt;PMRA.IN

mark as unread

Mon 7/22/2013 12:31 PM

To:  INFO <info@hc-sc.gc.ca>;Cc:  David Patriquin;

Hello David,

Your email below was forwarded to me. I'm writing to you from the Pest Management Regulatory Agency (PMRA), the branch of Health Canada responsible for the registration and regulation of pesticides in Canada.

All products designed to manage, destroy, attract or repel pests that are used, sold or imported into Canada must be registered and are regulated by the PMRA. These include chemicals, devices, and even organisms, and are referred to collectively as pest control products, or simply 'pesticides.' The term 'pesticides' refers to a multitude of pest control methods that include herbicides for weed control, fungicides for the control of plant diseases, insecticides and repellents to control insects, rodenticides to control rodents, electronic devices to control insects or rodents, sanitation products to control bacteria and viruses in pools and spas, special preservatives for wood, structural materials and other products, biochemicals and non-conventional products.

Staff at the PMRA are responsible for administering the Pest Control Products Act (PCPA) on behalf of the Minister of Health. Registration under the PCPA requires a thorough scientific evaluation to determine that new pesticides are acceptable for a specific use and that registered pesticides remain acceptable for use once on the market. If Canadians choose to use pesticides, they can only use a pesticide registered by the federal government for the pests and treatment areas listed on the label, and use them according to the label directions.

Permethrin is an active ingredient that is used in many currently registered pesticides. The established use site categories of these currently registered pesticides include WOOD AND WOOD PRODUCTS, TURF, SEWERS, OUTDOOR LIVING AREAS, OUTDOOR SURFACES OF BUILDINGS, ORNAMENTALS (FIELD), NONCROP LAND, INDUSTRIAL ESTABLISHMENTS, FOOD/FEED CROPS (FIELD), FOOD/FEED ESTABLISHMENTS, FARM BUILDINGS, DWELLINGS, AGRICULTURAL. However, clothing other than military or paramilitary is not one of the established use site categories.

In Canada, clothing containing permethrin to repel insects is considered a treated article and may require registration under the PCPA. Any permethrin-based product used to treat clothing would be a pesticide and would require registration with the PMRA before it could be sold, used, manufactured or imported in Canada. The only permethrin-based pesticides currently registered to treat clothing in Canada are for military use.

As the regulatory agency responsible for the registration of pesticides, the PMRA cannot solicit applications for registration from the private sector. However, such pesticides would be registered by the PMRA if the registration requirements are met.

I trust this is satisfactory.

Robert Martin

Regulatory Information Officer / Agent d'information sur la réglementation

Pest Management Regulatory Agency/Agence de réglementation de la lutte antiparasitaire

2720 Riverside Drive

Ottawa, ON, K1A 0K9

1-800-267-6315 (Within Canada)

613-736-3799 (Elsewhere)

<http://www.hc-sc.gc.ca/cps-spc/pest/index-eng.php>

▼ INFO---2013-07-22 08:47:12 AM---Thank you for contacting Health Canada. Your recent enquiry has been redirected to the appropriate

## Re: Why is permethrin not registered for use on clothing in Canada

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mark as unread



David Patriquin

Tue 7/23/2013 8:35 AM

[show all 3 recipients](#)

To:  PMRA INFOSERV <PMRA.INFOSERV@hc-sc.gc.ca>;

Cc:  megan.leslie@parl.gc.ca;

Mr. Robert Martin

Thank you for your prompt response.

It does not help much. The Macleans article in 2007 that I cited indicates that an application to register permethrin-treated clothing was made at that time:

[http://www.macleans.ca/science/health/article.jsp?content=20070723\\_107268\\_107268](http://www.macleans.ca/science/health/article.jsp?content=20070723_107268_107268)

"Meanwhile, Buzz Off thinks its products will be a hit when they make it to Canada. "The northern states have been some of our best markets," says vice-president Jason Griffin. "People in Minnesota, Michigan, Wisconsin, that area -- the season for them to get outdoors is much shorter. They don't want to lose any days to insects and so they are much more likely just to get outside. We think that Canada would follow." Griffin hopes to get the all-clear from the PMRA in the next three to six months. In the meantime, however, Canadians hoping for another tool in their battle against biting bugs will have to wait."

So I assume the application was turned down for some reason.

I do understand the general process for registration of pesticides as I served for a period on the PMRA Advisory Board.

I am prepared to pursue the issue (e.g., to ask health professionals to get involved, go to companies producing these products to ask them to seek registration etc.), but needed some clarification first from the PMRA of what has happened to past applications and whether there are any applications now under review.

Can you give me any info., even if of a generic nature, in regards to these questions:

- Have applications been made in the past to register permethrin products for clothing, or permethrin treated clothing in Canada that have been turned down?

-If any applications were turned down, on what basis?

-Are there any applications currently being considered?

-If so, when were they submitted and when do you expect a decision? Is there anything else you can tell me about these applications?

## Re: Why is permethrin not registered for use on clothing in Canada

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Robert P Martin &lt;robert.p.martin@hc-sc.gc.ca&gt; on behalf of PMRA INFOSERV &lt;PMRA.IN

mark as unread

Wed 8/7/2013 6:55 PM

To:  David Patriquin;

Hello again David,

As the regulatory agency responsible for the registration of pesticides, the PMRA can only discuss pending applications for the registration of pesticides with the applicant/registrant. Information regarding historical submissions can once again only be discussed with the applicant/registrant.

However, I'd invite you to consult our Public Registry which contains non-confidential information on pesticides. It can be accessed by using the link below:

<http://pr-rp.hc-sc.gc.ca/pi-ip/index-eng.php>

To obtain the information that's of interest to you, you may want to conduct a search by active ingredient.

Robert Martin

Regulatory Information Officer / Agent d'information sur la réglementation

Pest Management Regulatory Agency/Agence de réglementation de la lutte antiparasitaire

2720 Riverside Drive

Ottawa, ON, K1A 0K9

1-800-267-6315 (Within Canada)

613-736-3799 (Elsewhere)

<http://www.hc-sc.gc.ca/cps-spc/pest/index-eng.php>

▼ David Patriquin ---2013-07-23 07:39:28 AM---Mr. Robert Martin Thank you for your prompt response.

**Re: Why is permethrin not registered for use on clothing in Canada****David Patriquin** to: PMRA INFOSERV

2013-07-23 07:39 AM

Cc: megan.leslie

Mr. Robert Martin

Thank you for your prompt response



## SELECTED POSTS ON NATURE-NS RELATED TO TICK-REPELLENT CLOTHING

David Patriquin  
Sun 4/28/2013 8:18 AM  
sent-mail

To:

naturens@chebucto.ns.ca;

Having removed an engorged black legged tick 3 days after walking through some Mass. woods recently in spite of my precautions (light clothing, long pants, jacket, hat, inspection), I'm interested in hikers' "best practices" to avoid ticks.

I noted DW's rolled up cuffs over his boots, for example, - any others?

Btw, my inspection (with assistance) missed a key site: my b. button. So check that one! (It became itchy, that's when I felt it there.)

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naturens-owner@chebucto.ns.ca  
on behalf of

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Sun 4/28/2013 9:58 AM  
NatureNSlistserv

When we expect to be in an area with ticks (or chiggers, in other parts of the world), my wife and I spray our shoes, socks and trousers with [permethrin](#). This is available as a product called Duranon, by mail order from some US suppliers. It hasn't been approved for use in Canada yet so some suppliers won't ship it here, but others will.

At least one company, Insect Shield, sells clothing pre-treated with permethrin, and we've had good luck with their products. The treatment remains effective through many washes, apparently.

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naturens-owner@chebucto.ns.ca on behalf of  
David Patriquin  
Mon 6/3/2013 10:44 PM  
To:  
naturens@chebucto.ns.ca;

After my brush with a black legged tick in April and subsequent sensitivity to doxycycline (extreme sun sensitivity), I really wanted to find out how to avoid them altogether. Thanks to -- for some direction.

tickinfo.com is a good source of info. As explained there, wearing pyrethrum-treated clothing combined with use of Deet on exposed skin areas is considered "100% effective" in keeping ticks off of your body.

Permethrin has not been registered by the PMRA for personal use in

Canada. Why not? - a good question; the Canadian military uses it and Health Canada advises Canadians to use it against malaria etc. I feel that health officials in Canada/NS are still underplaying the tick/lyme issue. We need to pressure health officials and politicians to in turn pressure the PMRA to allow permethrin products (sprays and clothing) for protection against ticks to be sold in Canada, and to advise on use of the same. (I go for the full chemical protection route, especially use of DEET, only when I know I will be in habitats (e.g., tall grass) and areas known to have high levels of black-legged tick and high frequency of lyme in the black-legged tick.)

Some US retailers will ship permethrin spray to Canada. LL Bean and other major outdoor-oriented retail stores sell Insect Shield and other brands of permethrin treated clothing so if you are in USA, pick some up!

A few further sources of info:

[www.cdc.gov/lyme/resources/1209lyme.pdf](http://www.cdc.gov/lyme/resources/1209lyme.pdf)

Treatment of Lyme Disease... New Medical Letter recommendations for prophylaxis and treatment. (2005)

NS gov. site with map of six areas where blacklegged ticks carrying the bacteria that can cause Lyme disease are known to be established:

<http://www.gov.ns.ca/hpp/cdpc/lyme.asp>

A Canadian study on effectiveness of spraying clothing (poster report)

[www.textilescience.ca/downloads/Arielle\\_Orteza\\_Report.pdf](http://www.textilescience.ca/downloads/Arielle_Orteza_Report.pdf)

Canadian Lyme Disease Foundation

<http://canlyme.com>

Repelling the insect-repellent hat

[http://www.macleans.ca/science/health/article.jsp?content=20070723\\_107268\\_107268](http://www.macleans.ca/science/health/article.jsp?content=20070723_107268_107268)

-interesting reading as it's a 2007 article that anticipated PMRA approval of permethrin products "in the next three to six months".

-----  
naturens-owner@chebucto.ns.ca

on behalf of

--0-

Mon 6/3/2013 5:36 PM

Well, this kind of component is used in many parts of the world to give outdoors clothing and gear an anti-bug treatment.

Permethrin is NOT a bug repellent like DEED, it is a neurotoxin and will kill bugs. Even if its structure is similar to plant components, some plant juices are also fall under chemical warfare.

Toxicity is reported as low for mammals -for some reason cats are more sensitive to it- but low toxicity doesn't mean its non-toxic. And over time our view on a number of chemicals has changed dramatically.

As far as I know permethrin is not approved as personal human bug protection here in Canada, thus spray for DIY application of treated clothing are not carried by retailers like MEC and Canadian Tire. In the US you can buy the stuff in pretty much all outdoor outfitting places (REI, Walmart, hunting suppliers). Maybe this has recently changed.

If you decide to use it -from whatever source- to treat your clothing make sure you follow instructions and use it only in the intended way and only at times required.

I think the Canadian military sprays their field uniforms with the stuff for years, so getting some new camo pants from surplus stores may be an option .....

## Poster

### Comparing the Effectiveness of Two Mosquito-Repelling Treatments

Arielle Orteza<sup>a</sup> B.Sc. (Textile Sciences), Song Liu<sup>a</sup>, Ph.D., Lena Horne<sup>a</sup>, Ph.D., and Terry Galloway<sup>b</sup>, Ph.D.

<sup>a</sup> Department of Textile Sciences, Faculty of Human Ecology, University of Manitoba

<sup>b</sup> Department of Entomology, Faculty of Agricultural and Food Sciences, University of Manitoba



The transmission of diseases to humans by mosquitoes is an enduring health concern. Clothing made of densely woven fabrics is widely used to act as a barrier to intervene mosquito-human contact. In 2003, a chemical-based insect repelling apparel, Insect Shield®, received EPA registration in the United States. The Insect Shield® technology entails integrating permethrin, an insecticide, with textile fibres. Permethrin is a synthetic version of pyrethrum derived from the daisy *Chrysanthemum cinerarifolium*. It is an insecticide that immobilizes or kills insects by overstimulating their nervous system. Apparel made from Insect Shield® offers odour-free protection against insects, including mosquitoes. The protection is expected to withstand 70 launderings.

In Canada, although permethrin is not registered for use on clothing, the Public Health Agency of Canada recommends permethrin-treated clothing or travel gear for those who travel to countries where malaria is prevalent. Permethrin can be sprayed directly onto clothing. Unlike Insect Shield®, the protective effect withstands only 6 launderings.

The purpose of this project is to test the effectiveness of fabrics made with Insect Shield® in repelling mosquitoes versus the effectiveness of fabrics treated with a 0.5% permethrin spray before and after 75 cycles of accelerated laundering using AATCC Test Method 61-2009 Colorfastness to Laundering: Accelerated. The experiment entailed exposing 100% cotton Insect Shield® knit fabrics in their original condition in a chamber containing 20 laboratory-hatched *Aedes aegypti* mosquitoes. The same procedure was repeated after subjecting the fabric to 75 cycles of laundering. The second step was to expose 100% cotton knit fabrics with no treatment to 20 mosquitoes contained in a chamber. The same procedure was repeated after treating the fabric with a 0.5% permethrin spray and again after subjecting the fabric to 75 cycles of laundering. Each procedure was replicated once.

Each fabric was exposed to the mosquitoes for 5 minutes. Every 30 seconds, the number of mosquitoes that landed on the fabric was counted for a total of 10 observations. Furthermore, 30 minutes and 24 hours after the treated fabrics were withdrawn from the chamber containing the mosquitoes, 'knock down' was recorded. Knock down refers to the number of mosquitoes that were either immobilized or dead.

The results show that for the Insect Shield® fabric, the average number of mosquitoes landing on it was 2 before laundering and 3 after laundering. The knock down was 1 mosquito thirty minutes after the fabrics were withdrawn from the chamber and 14 after 24 hours. For the 100% cotton knit fabric with no permethrin spray treatment, the average number of mosquitoes landing on it was 12. After spray treatment with permethrin, the average number of mosquitoes landing on it was 2 before laundering and 3 after laundering. The knock down was 7 mosquitoes after 30 minutes and after 24 hours, all mosquitoes were dead.

In conclusion, the permethrin-treated fabric is shown to be effective in repelling mosquitoes. Both the Insect Shield® fabric and the permethrin-treated fabric were effective in repelling mosquitoes before and after 75 cycles of laundering. The effect of number of launderings on the mosquito-repelling function of the permethrin-sprayed fabric contradicts the performance reported in public domain. This calls for further research on the durability of permethrin spray on textile products. The permethrin-treated fabric had a quicker knock down time than the Insect Shield® fabric.

**Title:** Repelling the insect-repellent hat: there are clothes that keep mosquitoes away. Too bad you can't buy them in Canada

**Author(s):** [Jordan Timm](#)

**Source:** *Maclean's*. 120.28 (July 23, 2007): p56. From *Educators Reference Complete*.

**Document Type:** Article

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<http://www2.macleans.ca/>

Full Text:

The Tilley Endurables hat is a Canadian clothing icon. It folds, it crumples, it inspires intense loyalty among wearers; it has a lifetime warranty, it's insured against loss, and, as the company famously claims, it can pass through the digestive tract of an elephant and be ready to wear again after a quick wash. Next spring, Tilley devotees in the U.S. will be able to sport a new version, one that will keep mosquitoes and black flies away from its wearer's head. A collaboration between Tilley and a North Carolina-based company called Buzz Off Insect Shield, the Canadian outfitter has high hopes for the product. But don't look for the new Tilley lid in bug capitals like Winnipeg and Edmonton--you won't find it. Buzz Off products use a chemical called permethrin, which has yet to be approved for use here as a personal insect repellent. "Until Health Canada passes it," says Dave Kappel, Tilley's director of wholesale, "we can't sell it in Canada."

Buzz Off has been working in the U.S. for the last four years with companies like L.L. Bean and Tommy Hilfiger Golf, using a patent-pending process to bond the powerful insecticide to clothing. That process got the thumbs-up from the Environmental Protection Agency in 2003, but Buzz Off's products are still not allowed north of the border. For two years, the company's application to sell its products in Canada has been under review by the Pest Management Regulatory Agency, the branch of Health Canada that regulates pest control products in this country.

Buzz Off's application is one of many the PMRA is considering for products that use permethrin. A synthetic version of pyrethrin, an insecticide that occurs naturally in some chrysanthemums, permethrin is registered in Canada for use as an agricultural insecticide, for lice and scabies treatments, and for household products that combat the likes of cockroaches and wasps. But in countries like the U.S., the United Kingdom and Australia, it's also available as a personal insect repellent that can be sprayed on clothing.

In Canada, though, the only people allowed to use permethrin spray are the Canadian Forces, who have been treating their uniforms with the chemical for a decade. Steve Schofield, the senior adviser for pest management in the Department of National Defence's communicable disease control program, says that in a place like Afghanistan, where soldiers face the threat of malaria and sandfly fever, permethrin is an invaluable tool for preserving their well-being.

"It's a fire-and-forget intervention," he says. "Once you get it on the uniform, it's there for six months." Soldiers still supplement their insecticidal uniforms by spraying DEET-based bug dope on exposed skin, but the treated clothing means soldiers in the field are protected if they forget to reapply the conventional repellent. And Schofield, who says the chemical's use has never caused a health problem for a soldier using it, has long been an advocate of having permethrin spray available in Canada for civilian use, both to prevent nuisance bites and to combat diseases like West Nile and Lyme disease. The latter, he says, is now popping up in more places in Canada, and permethrin has proven much more effective against Lyme-bearing ticks than has any DEET-based insect spray.

Health Canada may not have approved it yet, but the Public Health Agency of Canada recommends that Canadian travellers use permethrin spray on their clothing if they're going to areas where they'll face the threat of malaria--even though the product isn't legal here. "Without a product registered in Canada, it's very hard for a traveller in need to get access to these things," Schofield says. He explains that the regulator in Canada is very conservative. "They do a very good job, but they're set up to protect Canadian health from any risk associated with a product. What they can't do, or don't do, is factor in the health protection benefit, the trade-off."

Meanwhile, Buzz Off thinks its products will be a hit when they make it to Canada. "The northern states have been some of our best markets," says vice-president Jason Griffin. "People in Minnesota, Michigan, Wisconsin, that area--the season for them to get outdoors is much shorter. They don't want to lose any days to insects and so they are much more likely just to get outside. We think that Canada would follow." Griffin hopes to get the all-clear from the PMRA in the next three to six months. In the meantime, however, Canadians hoping for another tool in their battle against biting bugs will have to wait.

Timm, Jordan

**Source Citation** (MLA 7<sup>th</sup> Edition)

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**Gale Document Number:** GALE|A166694155

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