



DAVE CARTER, GUELPH MERCURY

The pesticides used for the spraying of lawn weeds such as dandelions has been linked to several chronic conditions — sparking a provincewide ban on the chemicals.

The evidence is clear

Study after study has linked pesticide use to an array of chronic diseases

By Neil Arya

I was dismayed to see Thursday's Record editorial opposing the provincial government's plan to ban the sale and use of lawn and garden pesticides, particularly as 140 municipalities, including Toronto, Vancouver and Montreal, and the province of Quebec have already passed restrictive pesticide bylaws or regulations.

The editorial quotes toxicologist Keith Solomon, who said "There is no evidence to suggest a health risk from these chemicals." Yet, last fall, two peer-reviewed Ontario College of Family Physicians publications in Canadian Family Physician reported multiple associations with cancers and other health problems including Parkinson's disease, fetal growth retardation, and infertility. Other studies have shown that pesticide applicators have increased incidence of cancers of the brain, lung, prostate, and non-Hodgkin's lymphoma.

The Record says that the herbicide 2, 4-D is safe since the Pest Management Regulatory Agency (PMRA) just re-registered it. But a peer reviewed article in Pediatrics and Child Health shows evidence of carcinogenicity. Other studies claim increases in lymphoma in dogs. Hardell and Erikson show that countries which have banned 2,4-D have found a decline in non-Hodgkin's lymphoma and concluded that five per cent of the incidence of the disease is attributable to pesticide exposure.

Why such differences among scientists?

Toxicologists study the effect of poisons on test animals in a lab, looking for definitive evidence of harm from a single, measured dose under ideal conditions and then extrapolate acceptable doses for human beings.

Medical practitioners and epidemiologists, on the other hand, deal with people in real life settings, comparing ex-

posed to unexposed. The more than 75,000 synthetic chemicals developed after the Second World War have effects which are non-specific, synergistic, additive, and multiplicative. It is unethical to deliberately expose people to potentially harmful substances, so we sometimes need to rely on indirect methods, accidental exposure data or data from countries with less regulated environments.

The editorial asserts, "Premier McGuinty either does know or should know that every blessed chemical his government plans to outlaw has been deemed safe for use by federal regulators in Canada and the United States."

The PMRA does not oppose legislation banning the cosmetic use of pesticides. In 2005, following a request by the pest management advisory committee (PMAC) on which I sat, the PMRA ceased using the word "safe" in any external communication and replaced it with "acceptable for use." "Safe" would assert absolute knowledge and flies in the face of chemicals previously deemed safe that were banned when new evidence or ways of viewing evidence were seen.

A more rational way of regulating pesticides should be based on a modified precautionary approach, analogous to the medical principle of "do no harm."

The burden of proof of relative safety, known as reverse onus, should be imposed on those introducing chemicals. In other words they must prove that their benefits far outweigh the risks. Should the benefits be great, society may accept a higher level of risk. When benefits are more marginal, society would have a lower tolerance for risk.

We would also examine the viability of alternatives and their risk and benefits. The alternative of doing without is already well-established in the City of Waterloo which largely eliminated pesticides from turf management for the past 20 years. While the harm of pesticides may not be of the

magnitude of tobacco or alcohol, the benefits for lawn and garden use is minimal, so unnecessary exposure must be avoided.

Should farmers be allowed to use pesticides when others are not? An argument can be made that the benefit of larger crop yields, at least in the short term, might seem worth the risk.

How about golf courses? Many of us would have preferred extending the ban to golf courses as golf course superintendents also seem to have elevated risk of non-Hodgkin's lymphoma, but that and the choice to ingest non-organic food is just that, an individual choice that has no significantly adverse effects on others.

The Record's assertion that the ban "is driven by political desire and public fear" is strangely reminiscent of arguments made by the tobacco lobby 20 years ago. Without definitive evidence of specific harm, we waited — for 40 years. While we waited, millions died.

Interestingly enough, those opposed to a ban still say they want to minimize use through integrated pest management (IPM). If pesticides are so safe, why is this necessary?

The Canadian Cancer Society, the Registered Nurses' Association of Ontario, the Canadian Association of Physicians for the Environment, the Ontario College of Family Physicians, Ontario Public Health Association and a strong majority of local doctors all support a ban.

Why would we needlessly and involuntarily expose vulnerable children, pets and the elderly to applications of cosmetic pesticides in our neighbourhoods?

Neil Arya is a family physician and an adjunct professor of environmental studies at the University of Waterloo and represented the Ontario College of Family Physicians (OCFP) on the Pest Management Advisory Council (PMAC) of Health Canada's Pest Management Regulatory Agency.

Governments too quick to launch 'safety' crusade

By Peter Shawn Taylor

That "the dose makes the poison" was 16th-century German-Swiss medical pioneer Paracelsus' contribution to world knowledge. Any substance can be toxic in sufficient quantities. The trick is to figure out how much poses a danger. But these days, it seems a different motto is at work — the politics makes the poison.

The past few weeks have seen two striking examples from federal and provincial government in which scientific evidence was twisted or ignored to produce a desired political outcome. Worse still, such an unscientific approach appears to provide cover for even more credulous decisions by eager local governments.

The federal government's proposal to ban baby bottles containing bisphenol A (BPA), an ingredient in most hard, clear plastics, was heralded as a "wise decision" in a Record editorial. But it's a perfect example of how rational debate fails when placed against emotive issues such as children's health.

The core of the BPA ban is that at certain levels of exposure, the chemical can be an endocrine disrupter, with implications for various reproductive functions. That sounds scary, but we need to remember Paracelsus' wisdom. Reliable scientific evidence shows the lowest level at which BPA poses a health risk is 50 milligrams per kilogram of body weight per day.

According to a Health Canada study — focused extensively on infants because of the baby bottle issue — the average level of exposure to BPA in Canadians aged up to one

month is 0.5 µg/kg of body weight per day. (µg is a microgram, 1,000 times smaller than a milligram.) This means the current level of exposure for Canadian infants is 100,000 times below what might be considered a health risk. Applying some extra caution as a safety margin, Health Canada estimated current exposure levels for young babies at 1,000 to 25,000 times less than hazardous levels.

Other regulators have looked into BPA baby bottles in recent years, including the European Food Safety Authority and the U.S. Food and Drug Administration, and have found much the same thing Health Canada did — the level of exposure in infants is many, many times below danger levels, even with large safety margins built in. Those other regulatory bodies concluded the bottles are safe. Canada did not, based on the same evidence.

Health Minister Tony Clement himself acknowledged that there was no apparent risk from baby bottles. "Our science tells us exposure levels to newborns and infants are below the levels that cause effects," he said at his announcement. But he banned them anyway.

Why do such a thing? The obvious answer is that the federal government is keen to burnish its environmental record, which has never been a strength for the Stephen Harper Conservatives. Coming down hard on a purported health risk in baby bottles makes it appear the Tories are on top of the environmental file.

It is a symbolically valuable move. At the same time, of course, it has panicked parents across the country and needlessly pushed retailers to remove many products from their shelves, in particular water bottles for adults,

that pose absolutely no threat to anyone.

The same issues were at work in the recent Ontario-wide pesticide ban announced by the Dalton McGuinty government. Curiously, this time The Record's editorial disagreed with the ban.

But they are the same issue. As the editorial properly noted, scientists at Ottawa's Pest Management Regulatory Agency have repeatedly investigated any and all possible health effects from residential use of pesticides and found no risks exist when the products are used as directed. The provincial Liberals chose to ignore these studies.

Like Clement, McGuinty's logic is that there's no acceptable safety margin when it comes to kids. The ban was necessary for "our children's health," he said. He sounds like he's on top of the environment issue, and some parents will find this caution comforting — but it is a phoney comfort. Lots of household chemicals will kill you quicker than pesticides or BPA. The issue, once again, is dose. And science tells us the dose we get from residential pesticides is benign.

The other problem arising from the misuse of science for political purpose is that broad and reflexive action in the name of children's health can provide an atmosphere to support even more unscientific and incoherent policies. A local example would be the recent announcement by the Waterloo Region District School Board that it will ban the sale of bottled water next year.

It's hard to see how denying children access to water in a convenient form does anyone any good. Yet trustee Ted Martin defended the move on a variety of economic, en-

vironmental, pedagogical and health reasons. He argued, for instance, that it takes more water to manufacture a bottle of water than the bottle itself can hold.

But wait a minute. If the standard for deciding what products schools will sell is the amount of water required to manufacture the container, why pick on bottled water? While we may lack comprehensive studies from the European Food Safety Authority or Health Canada on the topic, it seems rather likely that a rigid plastic or glass bottle of fruit juice in a school vending machine requires more manufacturing effort than the standard flimsy bottle of water. If so, are we to ban juice as well?

Of course, there is no science to the school board policy at all. It's meant as a symbolic attack on capitalism by some folks who think it's wrong to make a profit off the sale of water. If you feel this way, don't buy bottled water. But forcing this ideology on children in school is manipulative far beyond the remit of a school board.

The standard cliché of the politician used to be someone who dissembled on every issue, never took a stand and always claimed more study was necessary. No longer: These days the clichéd politician is someone who takes too much action for too little reason. At the federal, provincial and local levels, governments are enacting broad, knee-jerk bans for no good reasons. We need pesticides, plastics and bottled water a lot more than we need such overzealous politicians.

Peter Shawn Taylor is editor at large of Maclean's magazine. He lives in Waterloo.

Canada must begin to take world food crisis seriously

Hunger is a movable feast. At the shocking worst of the 1980s Ethiopian famine, politicians from nearly everywhere, rock stars and, yes, reporters, flew from the relief camps to plunder the Addis Ababa Hilton's daily international smorgasbord.

For the rich, and Canadians are among the richest of the rich, rising food prices are a sliding-scale inconvenience. For the poor, and particularly for the bottom billion subsisting on \$1 a day, the current crisis may prove to be the difference between life and death.

That shouldn't surprise.

For decades those who worry as much about others as about themselves have been pricking the world's conscience about those left behind by extraordinary boom times and globalization's big bang.

From Jeffrey Sachs to Paul Collier, renown development experts



James Travers

and economists have mixed hope and despair in deconstructing the Rubik's Cube of complex factors that make the problem so intractable as well as so easy for the privileged to ignore.

Here at home John Watson, the former head of CARE Canada who delights in thinking outside conventional templates, pestered several federal governments to be more innovative and generous in making markets work for the poor.

Money and politics connects those persistent warnings and timely advice to spiking world rice, wheat and corn prices.

Disguised as concern for family

farms often sold long ago to corporations, North American and European leaders too frequently force capitalism's free hand in favour of homegrown crops and votes.

The sudden results — years of artificially depressed prices and crop dumping as well as home subsidies that far outstrip foreign assistance — are now in headlines. Demand from China and India's ballooning middle class, the impact of poorly-considered North American biofuels policies combined with a 20-year drop in Third World agricultural investment are putting huge stress on supply.

Food is the immediate fear; money is the heart of the matter. At both ends of the food chain, the green stuff that doesn't grow on trees is the decisive ingredient. Without it more than 400 million small farmers can't take advantage

of what will be temporary shortages and perhaps permanently higher returns.

Helping the poor help themselves, not falling back on more of the same distorting subsidies and protectionism, is the thoughtful response to worries about food supply.

Driving smallholder yields from low to high makes better long-term sense than supercharging already superproductive corporate farms.

It's better for international economic stability as well as for the environment and, best of all, putting cash and decision-making capacity into local hands is the most effective, least paternal form of development assistance.

The problem is that the solution is problematic. It takes effort and time to deliver now higher-cost fertilizer to remote homesteads and to

build or rebuild the infrastructure Canadians take for granted. It's easier and more politically rewarding to simply prime the domestic farm pump.

That needs to be part of the immediate response. But to morph this crisis into an opportunity demands more of countries that can make a difference.

As much as federal Conservatives are taking a beating for a who-really-cares development attitude, their record is not that much worse than predecessors.

What's more important now than pointing fingers is that Canada crosses the assistance threshold it helped set decades ago and, more pressingly, takes seriously a crisis that today is about food shortages but by tomorrow will again be about poverty.

James Travers writes on national issues.