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## THE CITIZEN

Latest News

### Farmed salmon a health hazard: report

Tom Spears

The Ottawa Citizen

Friday, January 09, 2004

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Atlantic salmon from fish farms around the world is tainted with cancer-causing chemicals, especially salmon from European farms, but also to a lesser degree fish from Canada and the U.S., a new study says.

It's not safe to eat farmed salmon from any country more than once a month, according to authors of the study in the journal Science. A top Canadian fisheries official disputes this.

And the study recommends that consumers check the country of origin whenever they buy Atlantic salmon, limiting consumption of European fish because it contains the highest levels of PCBs, pesticides and other pollutants.

While the study didn't examine farmed Pacific salmon, it did include the Atlantic species farmed on the Pacific coast.

All the farmed salmon had higher levels of pollutants than their wild Atlantic cousins.

The wild fish have become so rare in North America that consumers here never see them in stores.

The farmed fish contain DDT, PCBs (a banned industrial oil common until the 1970s), dieldrin (a pesticide from the same era widely banned today), and nearly a dozen other "organochlorine" pollutants, the type that persist for decades if dumped into lakes and rivers.

These are all chemicals familiar to any scientist who studies water pollution in the Great Lakes, the world's major rivers or industrial harbours. Many are either associated with cancer, or with a reduced ability to have healthy babies among animals that eat too much of them, including humans who eat large amounts of chemically tainted fish.

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The body stores these chemicals in its fat. Salmon, which are relatively high-fat fish, store and build up levels of pollutants present at lower levels in the small fish they eat. Ironically, this same fish oil contains the "good" cholesterol that helps prevent heart attacks.

Until now, no one had done a big study of many salmon from many sources, says fisheries scientist Daniel Pauly of the University of British Columbia. He said this should be a starting point for study of balancing the risks and benefits of eating farmed salmon, "because up to now the discussion didn't happen... Now it has been forced onto the discussion table.

"It's a little like when you find a cow that has BSE (mad cow disease). Until now, the problem of the food chain for the animals could be denied. Once you have the animal, you don't know what you're going to do, but you sure as heck can't deny that you have a problem that you need to talk about. That's what this study does."

"I would tell my daughter if she were pregnant not to eat (salmon) more than every few months," he added. Fetuses are more susceptible to pollutants than children or adults. But he said the amounts other people should eat are not yet clear.

But fisheries experts are divided on whether there's any danger.

All the salmon tested were "well below" levels of chemicals defined as safe by both Canadian and U.S. food safety officials, said Yves Bastien, Canada's commissioner for aquaculture.

"There may be a statistical difference between farmed and wild salmon," but it's not enough to hurt anyone, he said.

"The risk of this study is that it will scare people from a very good sources of food that has very, very negligible potential for risk," he said.

The study is well done, "but what's ignored in this study is the great benefit" from all salmon, said Charlie Santerre, a food toxicology professor at Purdue University in Indiana. The U.S. imports more than 30 per cent of its salmon from Canada, he noted, and farming makes it affordable: "For the first time, low-income families ... can afford this good food."

Any cancer risk is far smaller than the potential to save many thousands of lives each year through a good diet that prevents heart attacks, he said. He compared the risk of salmon to the risk of injury or death caused by seatbelts in cars, which is outweighed by the many lives that seatbelts save.

Mr. Santerre recommends eight ounces of salmon a week for most adults.

The six-member international team led by analytical chemist Ronald Hites of Indiana University analysed about 700 salmon -- more than two tonnes of fish in all -- either bought directly from fish farms or from supermarkets in 16 cities in Canada, the U.S., Britain, Norway, France and Germany. Toronto and Vancouver were among them.

"Farmed salmon fillets purchased from supermarkets in Frankfurt, Edinburgh, Paris, London and Oslo were generally the most contaminated," with Boston and San Francisco fish close behind, they found.

Fish in Toronto and Vancouver supermarkets had more pollutants than wild salmon, but had considerably less than the European fish.

The scientists traced most of the contaminants to commercial salmon feed

made of ground-up fish and oil, with chemical levels especially high in European feed.

"Most of the salmon sold in European stores comes from European farms, which produce the more contaminated salmon, whereas much of the salmon sold in U.S. stores comes from Chile and Canada," the study published in Science says.

Using fish-eating guidelines from the U.S. Environmental Protection Agency, they say it's safe to eat less than one farmed salmon meal every two months in Germany and Scotland, which had the most tainted fish. (The EPA uses stricter guidelines than the U.S. Food and Drug Administration, which regulates food in stores. It says these fish are safe.)

Wild fish are much safer to eat, the study says. The wild salmon studied for comparison were not Atlantic but five Pacific types: Chinook, Coho, chum, pink and sockeye.

"Fish that is not contaminated is a health food," the study concludes. "However, this study suggests that consumption of farmed salmon may result in exposure to a variety of persistent bioaccumulative contaminants with the potential for an elevation in attendant health risks."

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