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So far, risk low from radiation in food in Japan

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A woman shops for vegetables at a market Sunday, March 20, 2011, in Tokyo. Japan announced the first signs that contamination from its tsunami-crippled nuclear complex have seeped into the food chain, saying that radiation levels in spinach and milk from farms near the facility exceeded government safety limits. (AP Photo/Gregory Bull)

(AP) -- Radiation-tainted spinach from Japan's damaged nuclear reactors may sound scary, but here's a reality check: Even if any made it to stores there, you'd have to be Popeye to eat enough to worry.

With some fallout found in an increasing number of foods, Japan's government is taking steps to stop contaminated products from reaching consumers - and the U.S. and other countries are double-checking

imports.

The Chernobyl disaster made clear that radiation from food can be a real risk: Thousands of cases of thyroid cancer after the 1986 reactor explosion there are blamed on the Soviet Union's failure to stop children in the region from drinking milk contaminated with radioactive iodine - children who also weren't given a thyroid-protecting drug, potassium iodide.

Japan's earthquake-damaged reactors haven't leaked nearly as much radiation as Chernobyl, and aren't expected to - and this time around, people are being warned, food is being tested and there's potassium iodide in the high-risk zone.

Japan has banned sale of milk, spinach and a few other products in regions from the leaking power plant toward Tokyo after discovery of higher-than-allowed levels of radiation in a range of foods. On Monday, the World Health Organization said Japan should act quickly to ensure that no contaminated foods are sold - as a precaution against long-term risk to nearby residents who otherwise might repeatedly consume large amounts of those products.

Still, international scientists say risk from food in Japan so far is low, especially outside the disaster zone - and in the U.S. in particular because it imports very little food from Japan.

Besides, there was radiation in food well before Japan's earthquake and tsunami.

"The world is covered in cesium-137 from the atomic weapons tests of the `50s and `60s," says nuclear physicist Patrick Regan of the University of Surrey in England.

"There is radioactivity in all food. It's really a matter of saying how much," agrees University of New Mexico radiologist Dr. Fred Mettler, who studied the health effects of the Chernobyl disaster. Here are questions and answers about the situation:

Q: What's the danger?

A: Radioactive iodine, from food or the air, can build up in the thyroid, leading to thyroid cancer years later. Young children and pregnant women are at greatest risk. Thyroid cancer is one of the least fatal cancers if treated promptly.

Radioactive cesium can build up throughout the body, is harder to eliminate and high levels are thought to be a risk for various other cancers.

But it takes quite high exposure to harm, says Mettler: In contaminated villages around Chernobyl, thyroid cancer was documented. But if there was an increase in any other cancer, it was too small to detect, he says.

Q: In what foods in Japan have these radioactive elements been found?

A: Iodine has been found mostly in milk and spinach, but also in chrysanthemum greens, leeks and a few other foods. Cesium also has been found in some vegetables. Levels found so far range from trace amounts to milk with iodine levels five times the acceptable limit, and in spinach, iodine levels 27 times the ceiling. Officials soon will test seafood.

Q: If you ate that, what would it mean?

A: You'd have to eat 2 pounds of the most contaminated spinach to absorb about as much radiation as you'd get from a CT scan of the head,

says Dr. Clifford Chao, radiologist-in-chief at New York-Presbyterian Hospital.

People who drank milk with the highest measured levels of iodine for two weeks would absorb less than a year's worth of natural background radiation, according to a report from British environmental radiation group, Mike Thorne and Associates Ltd. But infants would absorb more than adults.

Q: What about breastfeeding?

A: Radioactive iodine could be in breast milk if nursing mothers in Japan were exposed; potassium iodide comes in doses for infants, too, if needed.

Q: What's being done to make sure contaminated foods don't reach consumers outside of Japan?

A: China, South Korea and a number of neighboring Asian countries have ordered radiation monitoring of food imports from Japan.

"There is no risk to the U.S. food supply," the U.S. Food and Drug Administration said Monday.

Foods from Japan make up less than 4 percent of all U.S. imported foods, but the FDA said it would "be paying special attention" to imports from the earthquake-affected area.

Q: How does radiation get into food anyway?

A: Fallout can land on crops in fields and wash into the soil to be soaked through the roots. Livestock can eat contaminated animal feed. It's possible seafood could be affected from contaminated water, although in

the ocean "dilution would be huge," Mettler says.

Q: What about canned or other foods stored before the earthquake - can residents eat that?

A: The WHO says radioactivity cannot contaminate sealed packaged foods, and that cropland can be covered with tarps and livestock brought into barns and fed clean feed.

Q: How long will radiation be a food threat?

A: Radioactive iodine decays quickly, with a half-life of eight days, meaning the length of time it takes for half of it to break down harmlessly. "In a couple of months, the iodine is a non-issue," says Mettler.

Cesium, however, can stay in soil for 30 years. But animals intended for slaughter can be given clean feed for a few months until cesium in their bodies drops to safe limits, he says. Also, the radiation stays only in the top inches of soil so deep plowing can make a field safe to use.

Q: Wait a minute, the U.S. and other countries irradiate certain foods to kill bacteria. How is that different?

A: No radioactivity is left in irradiated foods because the energy used, from such sources as X-rays and electron beams, is too low. The FDA, World Health Organization and other authorities have repeatedly found the process to be safe.

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