

Wood-Ash: The Unregulated Radwaste!

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"While cleaning ashes from his fireplace two years ago, Stewart A. Farber mused that if trees filter and store airborne pollutants, they might also harbor fallout from the nuclear weapons tests of the 1950s and 1960s. On a whim, he brought some of his fireplace ash to Yankee Atomic Electric Companies' environmental lab in Boston, Mass., where he manages environmental monitoring. Farber says he was amazed to discover that his sample showed the distinctive cesium and strontium 'signatures' of nuclear fallout-and that the concentration of radioactivity "was easily 100 times greater than anything (our Lab) had ever seen in an environmental sample."

Since then, he has obtained wood-ash radioactivity assays from 16 other scientists across the nation. These 47 data sets, representing trees in 14 states, suggest that fallout in wood ash "is a major source of radioactivity released into the environment," Farber says. With the exception of some very low California readings, all measurements of ash with fallout-cesium exceeded - some by 100 times or more - the levels of radioactive cesium that may be released from nuclear plants (about 100 picocuries per kilogram of sludge). Ash-cesium levels were especially high in the Northeast - probably because naturally high levels of nonradioactive cesium in the soil discourage trees from releasing fallout-derived cesium through their roots, he says.

Industrial wood burning in the U.S. generates an estimated 900,000 tons of ash each year: residential and utility wood burning generates another 543,000 tons. Already, many companies are recycling this unregulated ash in fertilizers. The irony, Farber says, is that federal regulations require releases from nuclear plants to be disposed of as radioactive waste if they contain even 1 percent of the cesium and strontium levels detected in the ash samples from New England. If ash were subject to the same regulations, he says, its disposal would cost U.S.A. wood burners more than \$30 billion annually."

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