

Chemical Technique Lessens Dangers of Atomic Fall-outs

BY DELOS SMITH
UPI Science Editor

New York—Two scientists capitalized on the fact that human bone absorbs radioactive strontium to create a chemical technique which can make that dangerous element in atomic fall-out much less dangerous for people.



Radioactive strontium-90 is dangerous because it is brought down from the stratosphere by rain. That puts it into vegetation and thence into cows and then into their milk. When people drink the milk their bones absorb greedily any radioactive strontium which is in it, along with calcium and other beneficial minerals.

It occurred to Lean Singer and W. D. Armstrong of the University of Minnesota that this potential evil could be converted into potential good. Why not take advantage of this affinity of bone for strontium by using bone outside the body as a filter?

With pulverized bone, they made filters. They added precisely measured amounts of radioactive strontium to milk and poured the milk through the filters, and up to 75 per cent of the strontium was filtered out of it. But, of course, it wasn't as simple as that makes it sound.

You see, the bone chemistry which causes bone to absorb strontium whether or not it is radioactive also causes it to absorb other minerals which are among the constituents that make milk such as wonderfully nutritional food.

The problem, then, was to

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By Jimmy Hatlo



make bone filters which would extract strontium from milk without taking equal amounts of these other minerals out of it. This problem

Singer and Armstrong attacked by putting their pulver-

ized bone through chemical treatments. The idea was to make bone less an organic substance and

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more a purely mineral one. They made "anorganic" bone by extracting the proteins, and "fat-free" bone by washing out the fats.

The former as a filter took out 37 per cent of the strontium while removing only a little calcium and potassium. The latter took out 75 per cent of the strontium but removed about one-third of the calcium. The scientists said this deficiency of the best filter bone could be repaired by adding calcium to filtered milk.

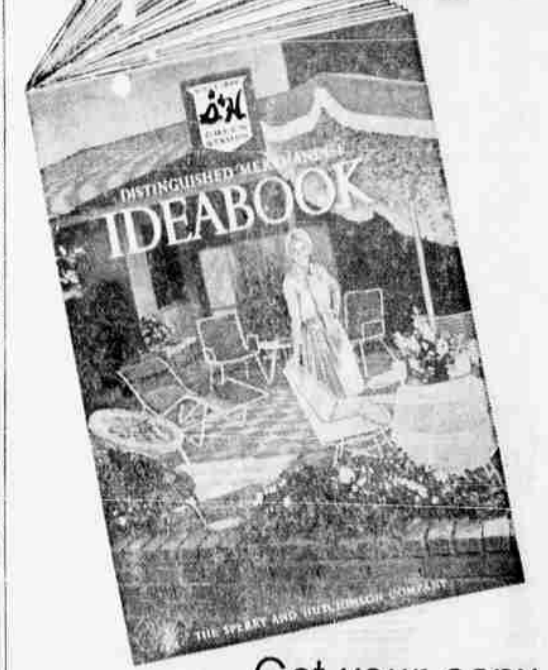
Their filters were column-shaped. By making the columns longer, even more radioactive strontium should come out, they said. A filtering column could be used indefinitely because—as they demonstrated experimentally—the radioactive strontium accumulated in the filter after one usage can be removed chemically before the filter is used again.

its sister isotope from fallout, radio active cesium, can be found in milk in most of the northern hemisphere, but in amounts much below those which scientists consider to be menacing. If there is any increase in fall-out, however, these amounts would increase.

Various efforts have been made to develop filtering techniques. Previous ones have involved the use of synthetic resins. This would make filtering milk in quantity difficult. And these methods change the taste. Singer and Armstrong reported that a "taste panel" couldn't distinguish their filtered milk from unfiltered milk.

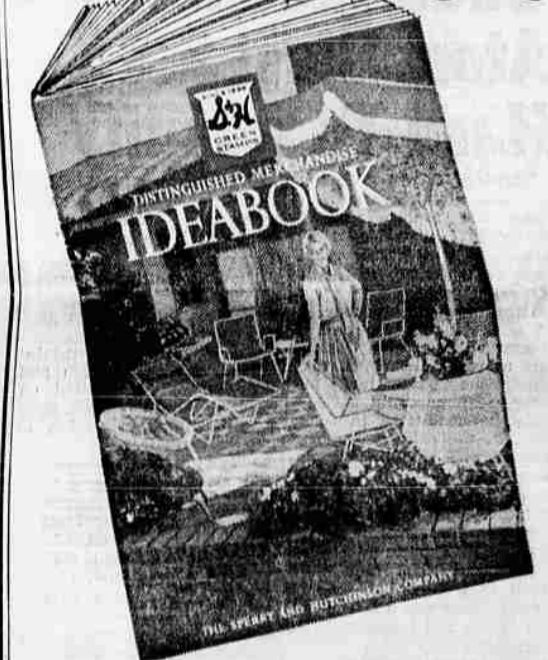
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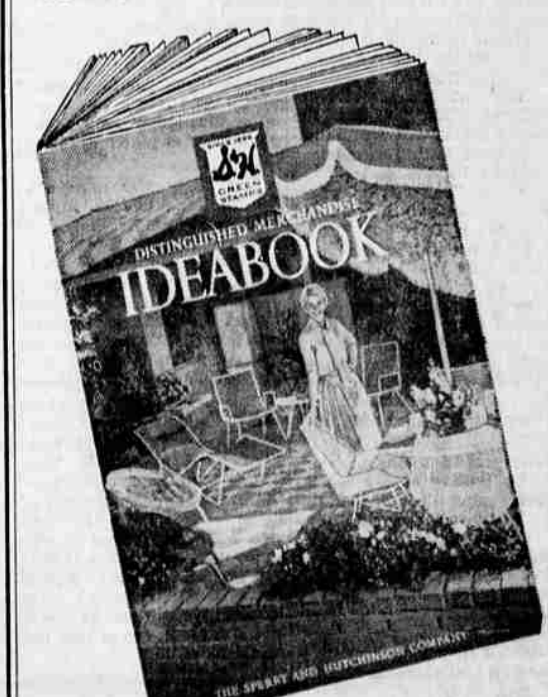


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