

# BOMB APPÉTIT!

BY ALEX WELLERSTEIN



One of the things that make nuclear weapons especially unpleasant is the fact that they have a nasty tendency to *contaminate*. Aside from causing slow, gruesome death from radiation poisoning, neutrons released in a nuclear explosion have the added bonus of rendering everything they touch radioactive.

During the early Cold War, when nuclear exchanges were a not-unlikely scenario, a serious question arose for the United States government.

*In the event of nuclear war, what would happen to our lunch?*

In theory, you could figure this sort of thing out in a lab: expose some food to radiation, see what happens. In reality, knowing how things would play out with an actual nuclear explosion is a complicated business to predict. And so, in 1955, the Federal Civil Defense Administration (the precursor to FEMA) arranged to have a diverse amount of food and beverages placed near two nuclear detonations, code-named

“Apple-1” and “Apple-2.” The first “Apple” shot had an explosive force equivalent to 14,000 tons of TNT (approximately the same as the Hiroshima bomb), while the second’s was 29,000 tons of TNT (about 50 percent more than the Nagasaki bomb).

The experiment, Project 32 of the larger Operation Teapot, encompassed an array of foodstuffs: apples, oranges, potatoes, onions, raisins, dehydrated milk, candy, frozen chicken pot pies, french fries, peas, Smithfield hams, bacon, sausages, beef rounds, legs of lamb, frankfurters, bologna, flour, crackers, prunes, macaroni, Jell-O.

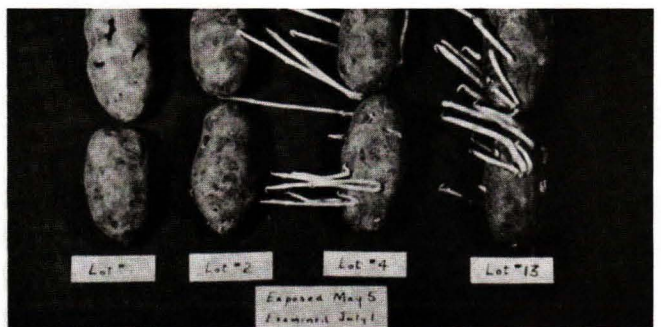
On the whole, the food fared well. Even when stored out in the open in a big trench, most of the food wasn’t heavily contaminated unless it

was within a quarter mile of the nuclear explosions. Even the items that did become problematically radioactive were rated as safe for “emergency use” after a few days. The food kept in freezers did fine, as long as the refrigeration equipment wasn’t damaged: spoilage was more of a threat to the frozen meats than the bomb. There were a few exceptions: places where food and packaging intersected (grease spots from melted margarine and lard) became highly radioactive and stayed that way for a while. Potatoes exposed to nukes stopped sprouting.

Some of the foods exposed underwent chemical changes that affected their flavors. Rolled oats took on a “burnt metallic-type flavor” which, the scientists noted, “made it unacceptable by normal

standards.” Dehydrated milk took on a “very strong stale flavor and odor when reconstituted.” Frankfurters exposed to the bomb exhibited “quite startling” changes to appearance once reheated: “The constrictions, bulges, and curling apparent in these sausages were unique and quite different from any deformations ever observed in our laboratories before this.” The hot dogs cooked by nuclear fire were reported to have an “undesirable” taste, described as “stale, rancid, cheesy, and metallic” by the team of taste-testers.

Another research program—Project 32.2a, “The Effect of Nuclear Explosions on Commercially Packaged Beverages”—was devoted to the question of whether beer and soft drinks would survive a nuclear holocaust. This question was especially important, the authors of the report explained, because “packaged beverages, both beer and soft drinks, are so ubiquitous and already uniformly available in urban



**LEFT PAGE, TOP:** Damaged soda and beer cans after a nuclear blast.

**ABOVE:** Photographs from the government reports on Project 32. From top to bottom: beer bottles to be exposed to a nuclear explosion; comparing the visual appearance of meat and meat products that were and were not exposed to a nuclear explosion a quarter mile away; hams recovered after the nuclear blast, located one mile from ground zero; potatoes at close distances to the nuclear explosion showed markedly inhibited sprouting (those on the left were a half mile or less from the blast).

areas, it is obvious that they could serve as important sources of fluids.”

Fortunately, beer and soft drinks survived, relatively unscathed by nuclear explosion, at least by the radiation standards of the time. The only problem, the final report explained, was that they didn’t taste very good:

“Representative samples of the various exposed packaged beers, as well as un-exposed control samples in both cans and bottles, were submitted to five qualified laboratories for carefully controlled taste-testing. The cumulative opinions on the various beers indicated a range from ‘commercial quality’ on through ‘aged’ and ‘definitely off.’ All agreed, however, that the beer could unquestionably be used as an emergency source of potable beverages. Obviously, if a large storage of such packaged beers was to be trapped in a zone of such intense radiation following a nuclear explosion, ultimate usage of the beverages beyond the emergency utility would likely be subject to review of the taste before return to commercial distribution.”

These findings would most likely not apply in the present day. For one thing, Apple-1 and Apple-2 were tiny bombs,

even by the standards of the day. Today’s nuclear weapons are hundreds of times more destructive. Modern beverage packaging is made of different materials than the cans of the 1950s. Aluminum, for example, is generally much more susceptible to radiation than tin. The tests also neglected the problem of fallout, the radioactive dust generated by mushroom clouds as they disperse. Nuclear fallout can work its way into the overall food supply, creating a long-term problem once stores have run out.

It’s been a long time since the U.S. government has run live nuclear tests. Operation Teapot is a relic of another time, when the threat of nuclear warfare felt more imminent, yet more fantastical. Our fear of global nuclear warfare has since abated, but our familiarity with nuclear disaster—in the form of power-plant meltdowns—has unfortunately expanded. The tests in Operation Teapot were conducted in all seriousness; researchers fully expected that someday we’d all have to deal with the problem of a nuked lunch. Today, when considering nuclear fallout, it seems a bit too quaint to ask, “Will our beer be okay?” **LP**