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The indestructible battlefield sandwich

LONDON, April 11, Graphic News: Hard on the heels of the stealth bomber and cruise missile comes the latest example of battlefield technology from the U.S. -- the indestructible sandwich.

Knowing war is no picnic, the U.S. army has come up with a new standard-issue sandwich capable of surviving almost anything apart from a hungry GI. The sandwich is designed to stay fresh for up to three years at 26 degrees C, the temperature of a warm summer’s day, or six months at 38 degrees, just over body temperature.

For years the U.S. military has wanted to supplement its usual battlefield MRE (Meal, Ready to Eat) rations with something that can be consumed on the move. Soldiers who tried the experimental pepperoni and barbecue-chicken “pocket sandwich” found it “acceptable,” according to a report in the latest issue of New Scientist magazine.

Although MREs -- known among soldiers as “Meals Refused by Ethiopians” -- already contain ingredients which can be used for sandwiches, these have to be pasteurised and stored in separate pouches. Soldiers have to make the sandwiches themselves.

Michelle Richardson, project officer at the U.S. Army Soldier Systems Center in Natick, Massachusetts, explained: “The water activity of the different sandwich components needs to complement each other. If the water activity of the meat is too high you might get soggy bread.”

To overcome the problem researchers at Natick used fillings such as pepperoni and chicken, to which they added substances called humectants which stop water leaking out. Humectants not only prevent water soaking into the bread, but also limit the amount of moisture available for bacterial growth.

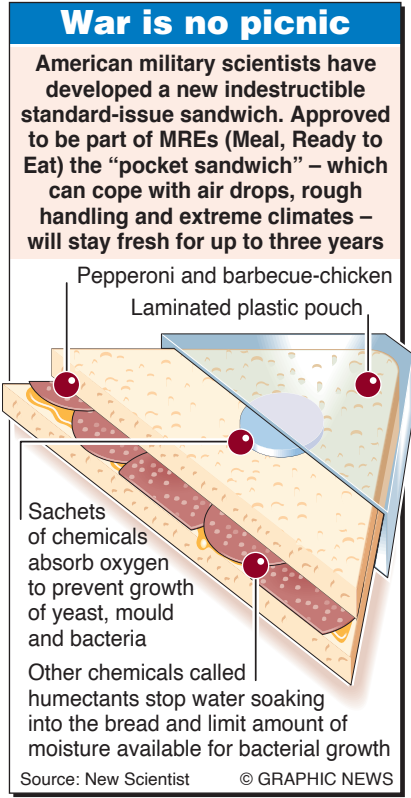
The sandwiches are sealed in laminated plastic pouches that contain sachets of oxygen-scavenging chemicals. A lack of oxygen helps prevent the growth of yeast, mould and bacteria. “The sandwiches will also contain ‘performance enhancing ingredients’ designed for specific mission profiles,” said Richardson.

The U.S. Army is now planning to extend the menu to pocket pizzas, as well as cream-filled bagels, breakfast burritos and peanut butter sandwiches.

Researchers expect the pocket sandwiches won’t see action until 2004. But like dehydrated egg, freeze-dried coffee and processed cheese -- all originally developed by the military -- the long-life sandwich will probably find its way into a supermarket near you.

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Source: New Scientist



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