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OSU researcher hatching plan for tastier Army egg

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Green eggs and ham just didn't cut it with soldiers so, in the 1990s, the military dumped the entree from combat rations.

But after a few years of scrambling in the science kitchen, Ohio State researchers say they have created an omelet that lasts three years, stores well, and looks and tastes good.

How'd they do it? A little heat and a lot of pressure.

"The results are encouraging," said food scientist V.M. Balasubramaniam. "We have to do more work so it looks like freshly cooked egg."

The need may not rank up there with armored vests, but eggs, it seems, are a vital part of a wartime diet.

"There's been sort of a fullcourt press to get an egg product," said Patrick Dunne, a food scientist at the Army's Soldier Center at Natick, Mass.

He said another plus to Ohio State's egg is that lower heat means more vitamins will be retained in the food. The military is sponsoring the research.

Final results are still a couple of years away, although an Ohio firm, Cincinnati-based Wornick Co., is preparing an omelet that will be added to field rations soon. Wornick also tinkered with cooking time when making its cheese-and-vegetable omelet.

"Eggs are tough to process and still have an egg product that tastes like an egg product," said Wornick food scientist Jody Weil.

The company's product will be the first egg meal in troop field rations since 1997, when the military jettisoned a dish that had the same color of fatigues but didn't taste as good.

Adding a natural yellow dye helped, Weil said, although the color often faded and left something that resembled a loaf of Crisco.

The future of military field rations, however, may be in Balasubramaniam's basement lab in Howlett Hall. There, he processes omelets in a compression machine that produces 100,000 pounds of pressure per square inch. That's equal to 10 times the pressure in the deepest part of the ocean — or two elephants standing on a nickel.

With that much pressure, Balasubramaniam can reduce the heat and the cooking time. He cooks at about 221 degrees Fahrenheit for five minutes instead of the 250 degrees Fahrenheit and 30 minutes used in normal food processing.

Balasubramaniam is developing the technique with scientists at Washington State University, the Illinois Institute of Technology and commercial food companies.

There are still a few kinks.

"The omelet looks better, but we have some rubberiness still," he said.

Dunne said tinkering with the recipe — a little extra cheese or some starches, for instance — should make the difference.

When finished, the omelet has to remain edible after being in storage for six months at 100 degrees and three years at 80 degrees.

Balasubramaniam, however, is more concerned with taste.

"We'd like to make it taste fresh, which is probably going to be a challenge," he said.

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Ohio State scientist V.M. Balasubramaniam is developing an omelet for troops in the field.