

# Study finds the cheapest emergency food to stockpile

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(Medical Xpress)—Storage foods for an emergency such as an earthquake that meet all daily energy requirements can cost as little as \$2.22 per day according to a new study by the University of Otago, Wellington. The identified foods were: flour, rice, pasta, vegetable oil, whole grain oats, sugar, and peanut butter.

The research used a [mathematical technique](#) called "linear programming" which assessed New Zealand foods by price and nutrition data. This computerised method works out "optimised solutions" – such as the lowest total cost to provide a set amount of [dietary energy](#) or all required nutrients.

Public health researcher, Associate Professor Nick Wilson, says that the study was done to better inform disaster preparations and civil defence given that, "New Zealand is a country subject to a wide range of [natural disasters](#), and some disasters such as storms and floods may be becoming more common with climate change."

"There is also evidence that some families run very low on stored [food](#) or make no disaster preparations at all and this research may encourage people to be better prepared because of the very low cost."

The research also looked at the cost of a collection of foods which did not require any cooking, such as food that could be eaten directly out of a can or after soaking. The cost of these foods was slightly higher at \$3.67 per day to provide enough energy for one man. The specific foods

were: whole grain oats, vegetable oil, dried peas (which need sprouting), breakfast biscuits (like Weetbix), sugar, [peanut butter](#), sultanas, and peanuts.

Another analysis looked at foods that would meet all nutritional recommendations and this was more expensive still at \$7.10 per day.

"In a disaster situation getting the perfect amounts of vitamins and minerals every day is of course not a priority. Nevertheless, we still studied this as it's what some people might still wish to plan for, as well as providing more variety," says co-author Mary- Ann Carter.

The specific foods in this scenario were: wholemeal flour, dried peas (need sprouting or cooking), sardines (canned), peanut butter, sugar, tomatoes (canned), tomato sauce, peaches (canned), apricots (canned), and fruit salad (canned).

A final analysis in the study assumed perfect storage conditions with a zero level of food spoilage, as might be expected by a government agency doing food storage. Then the cost was even lower at \$1.93 per day.

"Overall we were surprised at how low these food costs were and so it seems that storing the recommended three days per person is likely to be very feasible for nearly all families. But sometimes it is not possible for people with damaged homes to access their food stores – and so the foods we identified could also be the cheapest ones for civil defence authorities or the army to supply in a disaster situation, " says Ms Carter.

This study appears in the latest issue of the *New Zealand Medical Journal*.

Provided by University of Otago

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