



Australian Government

Department of Defence

Defence Science and
Technology Organisation

DSTO :: Science and Technology for Safeguarding Australia

Functional Food Bar

Energy & Health - Anytime, Anywhere

Soldiers need to maintain energy and alertness in the field, where there may not be the time or the opportunity to take a break. Traditional high sugar snacks give a rapid rise and rapid fall of blood glucose and don't help maintain a healthy intestinal bacteria essential for good gut health.

The DSTO, together with the United States Army Natick Soldier Research, Development and Engineering Center, has developed a chocolate bar based on the commercial "First Strike" chocolate bar, but instead using resistant starch extracted from green bananas to overcome the limitations to putting extra fibre in a snack food.

Increased Fibre!

Normal types of fibre such as bran or gums are not tasty in concentrated forms. However replacing some of the sugars in an energy bar with Raw Green Banana Starch provides an appetising and convenient light-weight ration item with the fibre equivalent of two apples!

Conventional preparation and heating processes destroy the active properties of the starch. However, this bar uses the newly developed Raw Green Banana Starch and cold press technology to deliver resistant starch fibre that feeds the "good" bacteria in the gut.

Resistant Starch and Health

Resistant starch is not broken down in the small intestine in normal digestive processes but moves through to the large intestine where it preferentially feeds protective microbial flora. This fermentation releases acetate into the blood stream providing slow burn energy, improved intestinal health and signals hunger suppression to the brain.

The Raw Green Banana Starch functional bar technology has been prototyped and is being evaluated for food stability and acceptability. The concept is available for commercial development with the DSTO and collaborators.



	Unit measurements	FSB with Banana Flour	FSB with Banana Maltodextrin
Total Dietary Fibre	g/100g	6.7	4.6
Moisture	g/100g	10.0	7.8
Ash	g/100g	1.8	1.4
Energy	KJ/100g	1699	1752
Protein	g/100g	5.5	5.0
Fat - Total	g/100g	13.0	12.5
Fat - Saturated	g/100g	4.8	4.6
Fat - Monounsaturated	g/100g	6.0	5.8
Fat - Polyunsaturated	g/100g	2.2	2.1
Fat - Trans	g/100g	<0.1	<0.1
Carbohydrates - Total	g/100g	63.0	68.7
Sugar - Total	g/100g	23.4	25.1
Sodium	mg/100g	24	41

For further information contact:

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