

Nutrient Analysis of Dairy Foods and Vegetarian Dishes

by Marianne Arnemo, Lars Jorhem, Stefan Johansson, Irene Mattisson,
Sören Wretling and Christina Åstrand



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Contents

Svensk sammanfattning	3
Summary	3
Background	3
Material and methods	4
Food sampling	4
Sample handling	4
Quality assurance of analytical methods	5
Calculations and control of nutrient values	6
Results	8
Energy and macronutrients, annex 3	8
Fatty acids, annex 4	8
Carbohydrates, annex 5	8
Fat-soluble vitamins and carotenoids, annex 6	9
Water-soluble vitamins, annex 7	9
Minerals, annex 8	9
Discussion	10
References:	11
Annex	11

Svensk sammanfattning

Livsmedelsverket genomför varje år ett analysprojekt för att bestämma halter av energigivande näringsämnen, vitaminer och mineraler i livsmedel. Under 2005 analyserades mejeriprodukter och vegetariska färdiga rätter. Urvalet av livsmedel baserades på livsmedel som rapporterats i två kostundersökningar och där näringsdata saknades. Prov inköptes i livsmedelsaffärer i Uppsala under perioden februari-maj 2005. Sammanlagt 38 prover analyserades, vissa prover var sammansatta av flera produkter.

De vegetariska rätterna, förutom ”Pytt i Panna”, hade bra fettsammansättning. De hade relativt höga halter folat men halterna av olika mineraler varierade avsevärt. Chokladen innehöll mycket energi, mättat fett och mineraler. Nivåerna av fettlösliga vitaminer var låga i samtliga produkter utom i de berikade. Analysprojektet har genererat ny kunskap om näringsämnen i livsmedel som tidigare saknade näringsdata. Värdena kommer att göras tillgängliga på Livsmedelsverkets hemsida www.slv.se.

Summary

The National Food Administration (NFA) has recently carried out a survey to determine the nutrient composition of a range of Dairy Foods and Vegetarian Dishes.

Thirty-eight samples were analysed for a wide range of nutrients. The data will be incorporated in the “The Swedish Food System” provided by the NFA.

Background

Each year the National Food Administration (NFA) carries out a nutrient analysis project to ensure updated and reliable information on nutrient information. In 2006 NFA decided to document the procedures, results and experiences of the analytical projects in the NFA report series. Also, in 2006, the NFA started to use “The Swedish Food System” (SFS), software that enables the documentation, handling and reporting of quality assured nutrient data (1,2).

The aim of the analytical project “Dairy foods and vegetarian dishes” was to update the SFS with information on products that were new on the market, specifically focusing on vegetarian dishes and dairy foods.

Material and methods

Food sampling

Foods that were reported in two diet surveys conducted at the NFA (3,4) but had no nutrient data available were selected for analyses. Information about the selected foods was gathered in stores in Uppsala, on the manufacturer's web pages or by contacting the companies.

Samples were collected from stores in Uppsala in the period February - May 2005. Some of the dairy products were delivered directly from the producers (e.g., Milko). For most foods one sample was collected and analysed as a single sample. However, for some foods several samples (different brands, different flavours etc.) were collected and analysed as a composite sample, see annex 1.

Sample handling

Each collected food was given a unique identity and the ingredient declarations were photographed or scanned for documentation. The foods were treated as laboratory samples as soon as they arrived to the laboratory. This means that any stability problems due to sensitivity to atmospheric oxygen, to UV-radiation or to temperature were taken care of.

Edible parts from the selected foods were homogenised together to generate the composite sample. Equal weights of each food were combined to form the composite sample.

About 1,5 kg of the food sample is needed for the analyses. Thirty-seven samples were analysed for nutrients including proximates, inorganics, vitamins, fatty acids, carbohydrates and dietary fibre. The sample "Herbal salt with algae" was analysed for iodine only.

The Chemistry Division 2 at the NFA carried out the major part of the chemical analyses. The National Veterinary Institute in Uppsala carried out analyses for proximates, dietary fibre and the inorganics sodium, potassium, calcium, magnesium, phosphorus, molybdenum, selenium and iodine. A full list of nutrients is given in Table 1. The methods used to conduct the analyses are included in annex 9.

Table 1: List of Nutrients analysed

Proximates	Water Protein (nitrogen and nitrogen factor) Fat Dry Ash content
Carbohydrate	Starch Individual mono- and disaccharides (glucose, fructose, sucrose, maltose, lactose)
Dietary Fibre	Non-starch polysaccharide
Fatty acids	Individual fatty acids (cis and trans isomers, positional isomers, branched chain) (Expressed as percentage total fatty acids)
Sterols	Cholesterol
Inorganics	Sodium, potassium, calcium, magnesium, manganese, phosphorus, iron, zinc, copper, iodine, selenium, molybdenum, cobalt, nickel, chromium
Water soluble vitamins	Ascorbic acid, thiamin, riboflavin, niacin, folate, vitamin B ₆ , vitamin B ₁₂
Vitamin A	Retinol, alpha- and beta-carotene, beta-cryptoxanthin
Other carotenoids	Lutein, lycopene, zeaxanthin
Vitamin D	Vitamin D ₃
Vitamin E	alpha-, beta-, gamma- delta-tocopherol
Vitamin K	Vitamin K ₁

Note: Each of the samples was analysed for a range of nutrients in the above list, depending on existing compositional data available and the importance of the particular food as a dietary source of each nutrient

Quality assurance of analytical methods

The laboratory at Chemistry Division 2 has a long history of working with nutritional analyses as well as quality assurance. Many methods have been accredited (5) since 1995 by SWEDAC (Swedish board for Accreditation and Conformity Assessment). Routines, instructions and analytical methods are part of a Quality System. Methods not yet accredited are at regular intervals included in internal audits. The quality of the analytical work is ensured continuously through analysis checks. This is done in the form of recovery test, blank samples, control samples and analysing certified reference materials. Chemistry Division 2 frequently participates in proficiency tests even with non-accredited methods.

Calculations and control of nutrient values

The analytical results were reported to the Nutrition Division and entered into SFS. All nutrients are expressed per 100 g food.

For energy, fatty acids, protein, total carbohydrates, retinol equivalents and niacin equivalents values were calculated, see table 2 for algorithms used and annex 2 for the conversion factors used. Nutrient values, including logical zeros, were controlled, see table 3.

Table 2. Algorithms for nutrient calculations

Nutrient	Algorithm
Energy kJ	Carbohydrates(g)*17.0 + protein(g)*17.0 + total fat(g)* 37.0 + alcohol(g)*29.0 + fibre(g)*8.0
Energy Kcal	Energy kJ*0,239
Total carbohydrates (g)	100.0 - (water(g) + ash(g) + protein(g) + total fat(g) + fibre(g) + alcohol(g))
Protein (g)	Nitrogen (g)*conversion factor ¹
Fatty acids (g)	Conversion factor ² * total fat(g) * percentage fatty acid/100
Retinol equivalents	Retinol(µg) + β-carotene(µg) /12 + (α-carotene(µg) + β-cryptoxanthin(µg))/24
Niacin equivalents	Niacin(mg) + protein (g) *10.0 * conversion factor ³ /60

¹ Nitrogen to protein factors for different food items.

² Fatty acid content of the total fat.

³ Percentage tryptophan in different protein sources.

Table 3. Quality control of nutrient data

Nutrient	Type of control
Total fat/ fatty acids	<ol style="list-style-type: none">1. The ratio of the sum of fatty acids (saturated fatty acids + monounsaturated fatty acids + polyunsaturated fatty acids) and total fat should be below 1.2. Control of conversion factors
Niacin- equivalents	<ol style="list-style-type: none">1. Control of conversion factors
Logical zeros	<ol style="list-style-type: none">1. Vitamin D: logical zeros in pure plant foods and dishes, exceptions certain mushrooms and enriched foods.2. Cholesterol: logical zeros in pure plant foods and dishes.3. Retinol: logical zeros in pure plant foods and dishes, exception enriched foods.4. Fibre: logical zero in completely animal foods and dishes, exceptions enriched foods like fibre added to yoghurt.5. B₁₂: logical zeros in pure plant foods and dishes, exception enriched foods Seaweed and fermented products might contain B₁₂, in addition there might be inactive analogues to B₁₂ in plant foods so all values must be controlled carefully.6. Alcohol: logical zeros in all foods except alcoholic beverages.7. Vitamin C: logical zeros in pure animal products, exception ascorbate added as antioxidant.8. Lactose: logical zeros in non-milk products
Macro nutrients	The sum of all macronutrients should be 100 $\sum \text{ashes} + \text{water} + \text{carbohydrates} + \text{protein} + \text{alcohol} + \text{fibre} + \text{fat} = 100$
Energy	Check calculations

Results

A large number of individual results are generated, since each of the samples were analysed for an extensive range of nutrients. The results used for updating the SFS are shown in Annex 3-8.

Results were evaluated continuously during the monitoring period, enabling reactions to deviations from content declarations or other noteworthy observations.

Energy and macronutrients, annex 3

All of the chocolates, as well as the “Roasted onion, were high in energy. The same products were high in total fat. Fibre content was high in the “All-Bran fibre Bar Natural”, the “Rye crisp bread sandwich” and some of the vegetarian dishes e.g. “Falafel”. Due to methodology problems there are no fibre data for samples with a fibre content less or around 1g/100g if the fat content is higher than 10g/100g. Alcohol was not analysed since all foods have logical zeros.

Fatty acids, annex 4

The soy-based products had the highest level of polyunsaturated fatty acids (PUFA); lionoleic acid (18:2) is the dominating PUFA in these products.

All chocolates were high in saturated fatty acids (SFA). Especially “Chocolate, low cocoa content, <35% cocoa” contained almost only SFA. In this product the dominating SFA is lauric acid (C12:0) and not stearic acid (C18:0), which is the dominating SFA in chocolate products with high cocoa content. High levels of SFA were also found in “Vegetarian whipping cream replacement 20% fat” and “Vegetarian Vanilla sauce 12% fat”.

Noteworthy is the surprisingly high percentage of trans fatty acid (25% of the fatty acids) in the “Hotch Potch vegetarian“. Use of partially hydrogenated vegetable oil is not included in the ingredient declaration of this product. In absolute amounts, “Roasted onion” had the highest level of trans fatty acids due to higher total fat content.

Carbohydrates, annex 5

All the chocolates were high in sugar, especially in disaccharides. Also, the Special Bar products and “All-Bran fibre Bar Natural” were high in sugars since they contained high levels of both mono- and disaccharides

Fat-soluble vitamins and carotenoids, annex 6

As expected in this type of foods, the levels of vitamin D were low with the exception of a fortified cheese. Pro-vitamin A carotenoids (β -carotene, α -carotene and β -cryptoxanthin) were low. β -carotene was used as a colouring agent in “Vanilla sauce, vegetarian” thus explaining the high content of β -carotene in this product.

Vitamin E was relatively high in the soy-based products.

Water-soluble vitamins, annex 7

The levels of water-soluble vitamins were in general relatively low except for the fortified products. Most of the vegetarian dishes, especially “Vegetarian mince, soy protein, frozen”, were high in folate.

Minerals, annex 8

The dark chocolates were high in minerals (e.g. iron, magnesium, potassium, zinc).

Vegetarian dishes were highest in selenium. Sodium was high in cheese and ready made products like “Vegetarian stewing meat, wheat protein“. A surprisingly high level of sodium was found in “Low fat mayonnaise, < 0.5% fat”.

Herbal salt was only analysed for iodine, which was high in this product. Iodine levels in other products were low.

Discussion

This NFA survey has generated new data where none was previously available and has provided information on new products that have become popular in recent years. These results will be incorporated in the national SFS provided by NFA and accessible on the web (www.slv.se). Results were in general in accordance with similar foods/products.

This analytical project was to some extent focused on vegetarian ready to use dishes. Overall these products had low levels of SFA and balanced levels of MUFA and PUFA. However, the “Vegetarian Hotch Potch” which was low in total fat had an unfavourable fatty acid composition. For vegetarians it might be difficult to reach recommended levels of minerals, for instance iron and zinc. The levels of these minerals varied considerably among the products analysed; “Vegetarian stewing meat, wheat protein was high in iron while the “Vegetarian Hotch Potch” was very low in iron. This is an example of how important it is to have nutrient composition, beyond macronutrients, to enable the consumers to make healthy choices.

It is of primary importance that the national nutrient data are representative estimates of the nutritional components in foods. The selection of foods and the sampling procedures in this project is not ideal and there is ongoing work on the NFA for improving sampling.

References:

1. Greenfield H., Southgate D.A.T: Food composition data. Production, management and use. Second Edition FAO 2003
2. EUROFOODS Recommendations for Food Composition Database Management and Data Interchange. COST Action 99-EUROFOODS
3. Larsson C: In Swedish ”Metodrapport. Svenska barns matvanor – nationell undersökning på 4-, 8- och 11-åringar”. NFA, Uppsala 2004. www.slv.se/barn2003
4. Sepp H, Ekelund U, Becker W: In Swedish. ”Validitet av enkätfrågor om kost och fysisk aktivitet bland vuxna - underlag till urval av frågor i befolkningsinriktade enkäter” NFA Report 21/2004
5. ISO/IEC 17025:2005. General requirements for the competence of testing and calibration laboratories.

Annex

Annex 1. Food samples

Annex 2. Conversion factors used for the different foods

Annex 3. Energy and macronutrients

Annex 4. Fatty acids

Annex 5. Carbohydrates

Annex 6. Fat-soluble vitamins

Annex 7. Water-soluble vitamins

Annex 8. Minerals

Annex 9. Analytical methods used

Annex 1

Food samples

English name	Swedish name	Composite samples	Brand name
Vegetarian cream replacement 15% fat	Milda Mat 15% fett	-	Unilever
Vegetarian cream replacement 7% fat	Milda Minimat 7% fett	-	Unilever
Vegetarian Crème Fraiche replacement 24% fat	Milda Fraiche 24% fett	-	Unilever
Vegetarian whipping cream replacement 20% fat	Milda Visp 20% fett	-	Unilever
Vegetarian coffee cream replacement 10% fat	Milda Kaffe 10% fett	-	Unilever
Vegetarian Vanilla sauce 12% fat	Milda Vaniljvisp 12% fett	-	Unilever
Crème Fraiche Blue Cheese 15% fat	Crème Fraiche blue cheese 15% fett	-	Arla
Crème Fraiche 13% fat, different flavours	Crème Fraiche 13% fett smaksatt	Crème Fraiche, franska örter Crème Fraiche, tomat & basilika Crème Fraiche, paprika & chili Crème Fraiche, vitlök Crème Fraiche, franska örter Crème Fraiche, sweet chili Crème Fraiche, taco	Arla Arla Arla Milko Milko Milko Milko
Crème Fraiche 28%, different flavours	Crème Fraiche 28% fett smaksatt	Crème Fraiche gourmet saffran & tomat 28% Crème Fraiche gourmet bearnaise 27%	Arla Arla
Processed cheese spread (enriched with ABCDE)	Frukostost 13% fett, vitaminberikad	Frukostost Mild Frukostost Stark	Kavli AB Kavli AB

Annex 1

English name	Swedish name	Composite samples	Brand name
Fermented cream (Mini Fraiche) 5% fat	Mini Fraiche 5% fett	Mini Fraiche	Arla
		Mini Fraiche	Arla
		Ljuva Fraiche	Skånemejerier
		Ljuva Fraiche	Skånemejerier
Processed cheese spread 12% fat	Milko Greve 13% fett	-	Milko
Fermented milk (Fjällfil) 4,2 % fat	Fjällfil 4,2 % fett	-	Milko
Yoghurt (Fjällyoghurt) 3,6 % fat, different flavours	Fjällyoghurt 3,6 % fett, smaksatta	Fjällyoghurt , hallon	Milko
		Fjällyoghurt , tranbär	Milko
		Fjällyoghurt , hjortron	Milko
		Fjällyoghurt , blåbär/smultron	Milko
Low fat mayonnaise, < 0.5% fat	Fettfri majonnäs, <0,5 % fett	Fettfri majonnäs	Kavli
		Fettfri majonnäs	Findus
White chocolate	Vit choklad	Äkta blockchoklad, vit	Fazer
		Lindt excellence, vanille naturelle	Lindt
		Belgian White Chocolate	Isis
Dark chocolate >70% cocoa	Mörk choklad, >70 % kakao	1848 Poulain Noir 76 %	Cadbury
		1848 Poulain Noir Ultime 86 %	Cadbury
		Marabou Premium Dark 70 %	Marabou
		Marabou Premium Dark 86 %	Marabou
		Äkta Blockchoklad Premium	Fazer
		Lindt excellence, 70 % cacao	Lindt

Annex 1

English name	Swedish name	Composite samples	Brand name
Dark chocolate, < 70% cocoa	Mörk choklad	Marabou Mörk choklad Äkta Mörk Blockchoklad Fazer Mörk Premium	Marabou Signum Fazer
Chocolate, low cocoa content, <35% cocoa	Mörk block	ICA Mörk Block Fazer Block, mörk Mörk Block	ICA Fazer Borggårdens
Milk chocolate	Mjölchoklad	Marabou mjölchoklad Fazer Blå Schweizisk mjölchoklad	Marabou Fazer Signum
Herbal salt with algae	Örtsalt med alger	Herbamare örtsalt Trocomare örtsalt	Bioforce Bioforce
Meat for kebab, frozen, ready to fry	Kebabkött, fryst	Köttfärsflarn, fryst Kebabkött, fryst Kebabkött, fryst	Sven P. Matkomp. Sv. Hamburgare AB Lithells
Risotto rice	Avorio ris		Risenta
Roasted onion	Rostad lök	Rostad lök Rostad lök	Eldorado Toro
Ice cream lolly raspberry/milk 5,5 % fat	Glasspinne, Hallon o mjölk, fett 5,5g		Sia glass
Ice cream lolly 10% fat	Glasspinne, fett 10g	Glass, Lill-Per, fett 12g Glass, Vaniljpinnar, fett 10g Glass, Bananer i pyjamas, fett 10g	Sia glass Sia glass Hemglass
All-Bran fibre Bar Natural	All-Bran FiberBar Naturell		Kellogg's

Annex 1

English name	Swedish name	Composite samples	Brand name
Wheat crisp bread sandwich, different fillings	Wasa Sandwich, vete olika fyllningar	Wasa Sandwich, vete, Ost-tomat- lök Wasa Sandwich, vete, Pizza Wasa Sandwich, vete, Ost	Wasabröd AB Wasabröd AB Wasabröd AB
Rye crisp bread sandwich, different fillings	Wasa Sandwich, råg olika fyllningar	Wasa Sandwich, råg, skinkost Wasa Sandwich, råg, ost	Wasabröd AB Wasabröd AB
Falafel, frozen (chick pea croquette)	Falafel, fryst	-	Nutana
Hotch Potch vegetarian, frozen	Pytt i panna, vegetarisk, fryst	-	Nutana
Soya sausage, frozen	Sojakorv, fryst	-	Hälsans kök
Vegetarian balls, frozen	Gourmetbullar, vegetarisk, fryst	-	Hälsans kök
Vegetarian mince, soy protein, frozen	Vegetarisk färs, fryst	-	Hälsans kök
Vegetarian stewing meat, wheat protein, frozen	Vegebitar, grytbitar av veteprotein, fryst	-	Hälsans kök
Soya based cream replacement	Sojagrädde	-	Alpro soja
Special K Bar, red fruit, enriched	Special K Bar, red fruit, berikad	-	Kellogg´s
Special K Bar, chocolate, enriched	Special K Bar, chocolate, berikad	-	Kellogg´s

Conversion factors used for the different foods

Food nr	Food name	Protein¹	Fat²	Niacin³
2036	Vegetarian cream replacement 15% fat	6,38	0,956	1,4
2037	Vegetarian cream replacement 7% fat	6,38	0,956	1,4
2038	Vegetarian Creme Fraiche replacement 24% fat	6,38	0,956	1,4
2039	Vegetarian whipping cream replacement 20% fat	6,38	0,956	1,4
2040	Vegetarian coffee cream replacement 10% fat	6,38	0,956	1,4
2041	Vegetarian vanilla sauce 12% fat	6,38	0,956	1,4
2042	Creme Fraiche Blue Cheese 15% fat	6,38	0,945	1,4
2043	Creme Fraiche 13% fat, different flavours	6,38	0,945	1,4
2044	Creme Fraiche, 28% fat, different flavours	6,38	0,945	1,4
2045	Processed cheese spread (enriched with ABCDE)	6,38	0,945	1,4
2046	Fermented cream (Mini Fraiche) 5% fat	6,38	0,945	1,4
2047	Processed cheese spread 12% fat	6,38	0,945	1,4
2048	Fermented milk (Fjällfil) 4,2% fat	6,38	0,945	1,4
2049	Yoghurt (Fjällyoghurt) 3,6% fat	6,38	0,945	1,4
2050	Low fat mayonnaise, < 0.5% fat	6,25	0,956	1
2051	White chocolate	6,25	0,956	1
2052	Dark chocolate >70% cocoa	6,25	0,956	1
2053	Dark chocolate, < 70% cocoa	6,25	0,956	1
2054	Chocolate, low cocoa content, <35% cocoa	6,25	0,956	1
2055	Milk chocolate	6,25	0,956	1
2056	Meat for kebab, frozen, ready to fry,	6,25	0,953	1,1
2057	Risotto rice	5,95	0,85	1
2058	Roasted onion	6,25	0,8	1
2059	Ice cream lolly raspberry/milk 5,5% fat	6,38	0,945	1,4
2060	Ice cream lolly 10% fat average value	6,38	0,945	1,4
2061	All-Bran fibre Bar Natural	5,83	0,72	1
2062	Wheat crisp bread sandwich, different fillings	5,7	0,956	1
2063	Rye crisp bread sandwich, different fillings	5,7	0,956	1
2064	Falafel frozen (chick pea croquette)	6,25	0,8	1
2065	Hotch Potch vegetarian, frozen	6,25	0,956	1
2066	Soya sausage, frozen	5,71	0,8	1
2067	Vegetarian balls, frozen	6,25	0,8	1
2068	Vegetarian mince, soy protein, frozen	5,71	0,8	1
2069	Vegetarian stewing meat, wheat protein, frozen	5,7	0,956	1
2070	Soya based cream	5,71	0,8	1
2071	Special K Bar, red fruit, enriched	5,83	0,956	1
2072	Special K Bar, Chocolate, enriched	5,83	0,956	1

¹ Nitrogen to protein² Fatty acid content of total fat³ Percentage tryptophan in the protein

Energy and macronutrients

Food nr	Food name	Energy kJ	Energy kcal	Fat g	Carboh. g	Protein g	Nitrogen g	Fibre g	Water g
2036	Vegetarian cream replacement 15% fat	650	155	15,3	3,0	2,0	0,32	n.a.	79,4
2037	Vegetarian cream replacement 7% fat	339	86	7,1	3,9	1,1	0,18	1,5	86,2
2038	Vegetarian Creme Fraiche replacement 24% fat	1027	245	24,0	5,8	2,3	0,36	n.a.	67,1
2039	Vegetarian whipping cream replacement 20% fat	861	206	19,7	5,0	2,8	0,44	n.a.	71,8
2040	Vegetarian coffee cream replacement 10% fat	492	118	9,9	4,4	3,0	0,47	n.a.	81,9
2041	Vegetarian vanilla sauce 12% fat	846	202	12,1	19,1	4,4	0,69	n.a.	63,6
2042	Creme Fraiche Blue Cheese 15% fat	736	176	15,1	6,1	4,3	0,67	n.a.	72,3
2043	Creme Fraiche 13% fat, different flavours	652	156	13,2	6,7	2,9	0,45	n.a.	75,7
2044	Creme Fraiche, 28% fat, different flavours	1149	275	28,1	4,4	2,0	0,32	n.a.	63,9
2045	Processed cheese spread (enriched with ABCDE)	833	199	13,1	6,1	14,4	2,26	n.a.	62,1
2046	Fermented cream (Mini Fraiche) 5% fat	353	84	5,2	5,7	3,8	0,60	n.a.	84,6
2047	Processed cheese spread 12% fat	781	187	13,0	3,4	14,3	2,24	n.a.	66,0
2048	Fermented milk (Fjällfil) 4,2 % fat	284	68	4,1	4,2	3,5	0,55	n.a.	87,4
2049	Yoghurt (Fjällyoghurt) 3,6% fat	382	91	3,7	11,5	3,0	0,46	n.a.	81,3
2050	Low fat mayonnaise, < 0.5% fat	346	83	0,5	18,8	0,5	0,07	b.d.	77,3
2051	White chocolate	2447	585	39,3	52,4	6,0	0,97	n.a.	0,8
2052	Dark chocolate >70% cocoa	2395	572	37,0	50,7	9,7	1,55	n.a.	0,4
2053	Dark chocolate, < 70% cocoa	2245	537	28,8	63,1	6,3	1,01	n.a.	0,4
2054	Chocolate, low cocoa content, <35% cocoa	2327	556	32,8	59,8	5,6	0,90	n.a.	0,4
2055	Milk chocolate	2358	564	35,2	52,9	9,2	1,47	n.a.	0,8
2056	Meat for kebab, frozen, ready to fry	1007	241	18,6	2,9	14,3	2,29	3,3	58,5
2057	Risotto rice	1499	358	1,3	78,1	6,7	1,13	1,2	11,7
2058	Roasted onion	2540	607	48,5	35,0	6,4	1,03	4,9	2,5
2059	Ice cream raspberry/milk 5,5 % fat	696	166	5,6	25,5	3,3	0,51	n.a.	64,8
2060	Ice cream 10% fat average value	831	199	10,2	22,6	4,1	0,64	n.a.	62,2
2061	All-Bran fibre Bar Natural	1867	446	20,8	49,9	6,9	1,18	16,5	3,5

Annex 3

Food nr	Food name	Energy kJ	Energy kcal	Fat g	Carboh. g	Protein g	Nitrogen g	Fibre g	Water g
2062	Wheat crisp bread sandwich, different fillings	2040	488	25,0	53,4	10,4	1,83	3,6	4,5
2063	Rye crisp bread sandwich, different fillings	1972	471	24,5	47,2	11,2	1,97	9,1	4,2
2064	Falafel, frozen (chick pea croquette)	1007	241	11,2	24,2	7,3	1,17	7,2	48,1
2065	Hotch Potch vegetarian, frozen	530	127	3,6	16,3	5,6	0,89	3,1	69,8
2066	Soya sausage, frozen	945	226	16,0	0,8	16,4	2,87	7,7	56,5
2067	Vegetarian balls, frozen	691	165	7,0	4,3	18,5	2,97	5,5	62,2
2068	Vegetarian mince, soy protein, frozen	705	168	6,8	5,5	17,7	3,09	7,4	59,7
2069	Vegetarian stewing meat, wheat protein, frozen	973	232	9,1	9,9	27,4	4,81	b.d.	50,9
2070	Soya based cream	786	188	17,5	5,2	2,9	0,50	n.a.	74,1
2071	Special K Bar, red fruit, enriched	1646	393	4,4	77,9	8,4	1,44	2,1	5,5
2072	Special K Bar, Chocolate, enriched	1668	399	6,5	73,2	8,1	1,39	5,8	4,8

Alcohol: Logical zeros in all foods except alcoholic beverages.

Fibre: Logical zero in completely animal foods and dishes, exceptions enriched foods like fibre added to yoghurt

n.a. = not analysed

Saturated fatty acids, trans fatty acids and cholesterol

Food nr	Food name	SFA g	TFA g	SFA+TFA g	C4-10:0 g	C12:0 g	C14:0 g	C16:0 g	C18:0 g	C20:0 g	Chol. mg
2036	Vegetarian cream replacement 15% fat	5,0	0,0	5,0	0,0	0,3	0,2	3,7	0,7	0,1	b.d.
2037	Vegetarian cream replacement 7% fat	2,3	0,0	2,3	0,0	0,2	0,1	1,7	0,2	0,0	2
2038	Vegetarian Creme Fraiche replacement 24% fat	7,4	0,1	7,5	0,1	0,5	0,3	5,4	0,8	0,1	7
2039	Vegetarian whipping cream replacement 20% fat	16,3	0,0	16,3	2,3	7,3	2,8	1,8	2,0	0,0	b.d.
2040	Vegetarian coffee cream replacement 10% fat	1,2	0,0	1,2	0,0	0,0	0,0	0,7	0,3	0,1	2
2041	Vegetarian vanilla sauce 12% fat	11,4	0,0	11,4	1,5	4,9	1,9	1,8	1,2	0,0	4
2042	Creme Fraiche Blue Cheese 15% fat	9,8	0,7	10,5	1,2	0,5	1,6	4,6	1,5	0,0	43
2043	Creme Fraiche 13% fat, different flavours	8,7	0,5	9,2	1,1	0,5	1,4	4,0	1,3	0,0	36
2044	Creme Fraiche, 28% fat, different flavours	18,5	1,2	19,7	2,3	1,0	3,0	8,6	2,7	0,0	80
2045	Processed cheese spread (enriched with ABCDE)	8,4	0,7	9,1	1,0	0,4	1,3	3,9	1,3	0,0	40
2046	Fermented cream (Mini Fraiche) 5% fat	3,3	0,3	3,6	0,4	0,2	0,5	1,6	0,5	0,0	17
2047	Processed cheese spread 12% fat	8,5	0,6	9,1	1,1	0,5	1,4	3,9	1,2	0,0	43
2048	Fermented milk (Fjällfil) 4,2% fat	2,7	0,2	2,9	0,4	0,1	0,4	1,3	0,4	0,0	16
2049	Yoghurt (Fjällyoghurt) 3,6% fat	2,4	0,2	2,6	0,3	0,1	0,4	1,1	0,4	0,0	13
2050	Low fat mayonnaise, < 0.5% fat	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	b.d.
2051	White chocolate	24,1	0,4	24,5	0,6	0,3	0,8	9,9	11,7	0,4	26
2052	Dark chocolate >70% cocoa	22,5	0,2	22,7	0,0	0,0	0,1	9,1	12,7	0,4	3
2053	Dark chocolate, < 70% cocoa	16,5	0,3	16,8	0,0	0,0	0,1	6,8	9,1	0,3	4
2054	Chocolate, low cocoa content, <35% cocoa	30,1	0,3	30,4	1,8	14,8	5,4	3,3	4,7	0,1	2
2055	Milk chocolate	21,3	0,2	21,5	0,5	0,2	0,7	8,8	10,4	0,3	29
2056	Meat for kebab, frozen, ready to fry,	8,6	0,8	9,4	0,0	0,0	0,6	4,7	2,7	0,0	63
2057	Risotto rice	0,2	0,0	0,2	0,0	0,0	0,0	0,2	0,0	0,0	0
2058	Roasted onion	13,4	3,3	16,7	0,0	0,1	0,3	10,9	1,9	0,2	0
2059	Ice cream lolly raspberry/milk 5,5% fat	3,7	0,3	4,0	0,5	0,2	0,6	1,7	0,7	0,0	17
2060	Ice cream lolly 10% fat	6,4	0,4	6,8	0,0	0,6	0,9	3,1	0,9	0,0	24
2061	All-Bran fibre Bar Natural	4,4	0,2	4,6	0,0	0,0	0,1	3,5	0,6	0,1	20
2062	Wheat crisp bread sandwich, different fillings	15,7	0,3	16,0	0,0	3,3	1,8	7,8	1,2	0,1	16
2063	Rye crisp bread sandwich, different fillings	16,6	0,4	17,0	0,0	3,7	2,0	7,6	1,4	0,1	23

Annex 4

Food nr	Food name	SFA	TFA	SFA+ TFA	C4-10:0	C12:0	C14:0	C16:0	C18:0	C20:0	Chol.
		g	g	g	g	g	g)	g	g	g	mg
2064	Falafel frozen (chick pea croquette)	1,7	0,1	1,9	0,0	0,0	0,0	1,3	0,2	0,1	0
2065	Hotch Potch vegetarian, frozen	1,8	0,9	2,7	0,0	0,0	0,0	1,5	0,3	0,0	0
2066	Soya sausage, frozen	1,6	0,1	1,7	0,0	0,0	0,0	0,9	0,5	0,0	0
2067	Vegetarian balls, frozen	0,7	0,0	0,7	0,0	0,0	0,0	0,4	0,2	0,0	0
2068	Vegetarian mince, soy protein, frozen	0,7	0,0	0,8	0,0	0,0	0,0	0,4	0,2	0,0	0
2069	Vegetarian stewing meat, wheat protein, frozen	1,4	0,0	1,4	0,2	0,0	0,0	0,7	0,3	0,0	0
2070	Soya based cream	1,8	0,1	1,9	0,0	0,0	0,0	1,0	0,6	0,0	0
2071	Special K Bar, red fruit, enriched	3,9	0,0	3,9	0,6	1,8	0,7	0,4	0,4	0,0	2
2072	Special K Bar, chocolate, enriched	3,6	0,3	3,9	0,0	0,0	0,0	1,5	2,0	0,1	2

Cholesterol: Logical zeros in pure plant foods

b.d. = below detection limit

Unsaturated fatty acids

Food nr	Food name	MUFA	PUFA	C16:1	C18:1	C18:2	C18:3	C20:4	C20:5	C22:5	C22:6
		g	g	g	g	g	g	g	g	g	g
2036	Vegetarian cream replacement 15% fat	6,6	2,9	0,0	6,4	2,0	0,9	0,0	0,0	0,0	0,0
2037	Vegetarian cream replacement 7% fat	3,1	1,4	0,0	3,0	1,0	0,4	0,0	0,0	0,0	0,0
2038	Vegetarian Creme Fraiche replacement 24% fat	10,7	4,8	0,0	10,4	3,3	1,5	0,0	0,0	0,0	0,0
2039	Vegetarian whipping cream replacement 20% fat	1,7	0,9	0,0	1,6	0,6	0,3	0,0	0,0	0,0	0,0
2040	Vegetarian coffee cream replacement 10% fat	5,6	2,6	0,0	5,4	1,8	0,9	0,0	0,0	0,0	0,0
2041	Vegetarian vanilla sauce 12% fat	0,1	0,1	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0
2042	Creme Fraiche Blue Cheese 15% fat	3,7	0,6	0,3	3,2	0,4	0,1	0,0	0,0	0,0	0,0
2043	Creme Fraiche 13% fat, different flavours	3,1	0,5	0,2	2,7	0,4	0,1	0,0	0,0	0,0	0,0
2044	Creme Fraiche, 28% fat, different flavours	6,8	1,1	0,5	5,8	0,7	0,2	0,0	0,0	0,0	0,0
2045	Processed cheese spread (enriched with ABCDE)	3,4	0,5	0,2	2,9	0,3	0,1	0,0	0,0	0,0	0,0
2046	Fermented cream (Mini Fraiche) 5% fat	1,2	0,2	0,1	1,1	0,1	0,0	0,0	0,0	0,0	0,0
2047	Processed cheese spread 12% fat	3,2	0,5	0,2	2,7	0,3	0,1	0,0	0,0	0,0	0,0
2048	Fermented milk (Fjällfil) 4,2% fat	1,0	0,2	0,1	0,9	0,1	0,0	0,0	0,0	0,0	0,0
2049	Yoghurt (Fjällyoghurt) 3,6% fat	0,9	0,1	0,1	0,8	0,1	0,0	0,0	0,0	0,0	0,0
2050	Low fat mayonnaise, < 0.5% fat	0,3	0,1	0,0	0,1	0,1	0,0	0,0	0,0	0,0	0,0
2051	White chocolate	11,8	1,5	0,2	11,5	1,3	0,1	0,0	0,0	0,0	0,0
2052	Dark chocolate >70% cocoa	11,8	1,1	0,1	11,7	1,1	0,1	0,0	0,0	0,0	0,0
2053	Dark chocolate, < 70% cocoa	9,2	1,7	0,1	9,1	1,5	0,1	0,0	0,0	0,0	0,0
2054	Chocolate, low cocoa content, <35% cocoa	1,0	0,3	0,0	1,0	0,3	0,0	0,0	0,0	0,0	0,0
2055	Milk chocolate	11,1	1,3	0,2	10,8	1,1	0,1	0,0	0,0	0,0	0,0
2056	Meat for kebab, frozen, ready to fry	8,3	0,7	0,8	7,1	0,4	0,1	0,0	0,0	0,0	0,0
2057	Risotto rice	0,4	0,4	0,0	0,4	0,4	0,0	0,0	0,0	0,0	0,0
2058	Roasted onion	19,4	5,8	0,1	18,9	4,7	1,1	0,0	0,0	0,0	0,0
2059	Ice cream lolly raspberry/milk 5,5 % fat	1,4	0,2	0,1	1,2	0,1	0,0	0,0	0,0	0,0	0,0
2060	Ice cream lolly 10% fat average value	2,6	0,6	0,1	2,4	0,4	0,1	0,0	0,0	0,0	0,0
2061	All-Bran fibre Bar Natural	7,0	3,6	0,0	6,9	3,6	0,1	0,0	0,0	0,0	0,0
2062	Wheat crisp bread sandwich, different fillings	6,0	2,2	0,1	5,8	2,0	0,1	0,0	0,0	0,0	0,0
2063	Rye crisp bread sandwich, different fillings	5,5	1,3	0,1	5,3	1,1	0,1	0,0	0,0	0,0	0,0

Annex 4

Food nr	Food name	MUFA	PUFA	C16:1	C18:1	C18:2	C18:3	C20:4	C20:5	C22:5	C22:6
		g	g	g	g	g	g	g	g	g	g
2064	Falafel frozen (chick pea croquette)	4,8	2,4	0,0	4,6	1,9	0,5	0,0	0,0	0,0	0,0
2065	Hotch Potch vegetarian, frozen	1,4	0,3	0,0	1,4	0,2	0,0	0,0	0,0	0,0	0,0
2066	Soya sausage, frozen	3,5	7,8	0,0	3,4	7,6	0,2	0,0	0,0	0,0	0,0
2067	Vegetarian balls, frozen	1,4	3,6	0,0	1,3	3,5	0,0	0,0	0,0	0,0	0,0
2068	Vegetarian mince, soya protein, frozen	1,4	3,3	0,0	1,4	3,3	0,1	0,0	0,0	0,0	0,0
2069	Vegetarian stewing meat, wheat protein, frozen	2,2	5,2	0,0	2,1	5,0	0,2	0,0	0,0	0,0	0,0
2070	Soya based cream	3,5	8,8	0,0	3,4	8,6	0,2	0,0	0,0	0,0	0,0
2071	Special K Bar, red fruit, enriched	0,1	0,2	0,0	0,1	0,2	0,0	0,0	0,0	0,0	0,0
2072	Special K Bar, Chocolate, enriched	2,3	0,3	0,0	2,3	0,3	0,0	0,0	0,0	0,0	0,0
MUFA Total monounsaturated fatty acids											
PUFA Total polyunsaturated fatty acids											

Carbohydrates

Food nr	Food name	Glucose g	Fructose g	Sucrose g	Maltose g	Lactose g	Starch g
2036	Vegetarian cream replacement 15% fat	b.d.	b.d.	0,5	b.d.	1,1	0,5
2037	Vegetarian cream replacement 7% fat	0,4	b.d.	0,3	b.d.	0,8	1,8
2038	Vegetarian Creme Fraiche replacement 24% fat	b.d.	b.d.	0,4	b.d.	3,2	0,5
2039	Vegetarian whipping cream replacement 20% fat	b.d.	b.d.	0,3	b.d.	3,8	0,5
2040	Vegetarian coffee cream replacement 10% fat	b.d.	b.d.	0,5	b.d.	3,7	b.d.
2041	Vegetarian vanilla sauce 12% fat	1,2	1,2	7,3	b.d.	5,8	b.d.
2042	Creme Fraiche Blue Cheese 15% fat	b.d.	b.d.	0,6	b.d.	2,5	0,3
2043	Creme Fraiche 13% fat, different flavours	0,4	0,6	0,4	b.d.	2,6	0,6
2044	Creme Fraiche, 28% fat, different flavours	0,3	0,4	0,4	b.d.	2,1	0,2
2045	Processed cheese spread (enriched with ABCDE)	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.
2046	Fermented cream (Mini Fraiche) 5% fat	b.d.	b.d.	b.d.	b.d.	3,6	0,4
2047	Processed cheese spread 12% fat	b.d.	b.d.	b.d.	b.d.	1,2	b.d.
2048	Fermented milk (Fjällfil) 4,2% fat	b.d.	b.d.	b.d.	b.d.	3,4	b.d.
2049	Yoghurt (Fjällyoghurt) 3,6% fat	2,6	2,6	2,4	b.d.	2,5	b.d.
2050	Low fat mayonnaise, < 0.5% fat	2,7	2,4	3,3	b.d.	b.d.	1,4
2051	White chocolate	b.d.	b.d.	41,9	b.d.	9,9	0,4
2052	Dark chocolate >70% cocoa	b.d.	b.d.	22,1	b.d.	b.d.	2,7
2053	Dark chocolate, < 70% cocoa	b.d.	b.d.	45,5	b.d.	b.d.	2,0
2054	Chocolate, low cocoa content, <35% cocoa	b.d.	b.d.	45,2	b.d.	2,3	2,5
2055	Milk chocolate	b.d.	b.d.	37,6	b.d.	10,9	1,1
2056	Meat for kebab, frozen, ready to fry	0,2	0,2	b.d.	b.d.	b.d.	0,7
2057	Risotto rice	0,3	0,3	0,4	b.d.	b.d.	68,4
2058	Roasted onion	1,5	2,6	1,8	0,3	b.d.	10,0
2059	Ice cream lolly raspberry/milk 5,5% fat	5,2	2,3	7,9	0,9	4,5	2,5
2060	Ice cream lolly 10% fat	0,9	b.d.	10,0	0,9	5,7	2,5
2061	All-Bran fibre Bar Natural	3,6	4,0	13,6	0,9	0,8	22,2
2062	Wheat crisp bread sandwich, different fillings	0,6	1,4	0,5	1,0	2,6	39,0
2063	Rye crisp bread sandwich, different fillings	0,4	0,8	0,2	0,3	1,5	36,5

Annex 5

Food nr	Food name	Glucose g	Fructose g	Sucrose g	Maltose g	Lactose g	Starch g
2064	Falafel frozen (chick pea croquette)	0,2	0,4	0,9	0,3	b.d.	18,0
2065	Hotch Potch vegetarian, frozen	0,4	0,5	0,4	0,2	b.d.	12,9
2066	Soya sausage, frozen	0,6	0,3	b.d.	0,8	b.d.	5,0
2067	Vegetarian balls, frozen	0,2	0,4	b.d.	1,8	b.d.	3,9
2068	Vegetarian mince, soya protein, frozen	b.d.	b.d.	b.d.	b.d.	b.d.	0,7
2069	Vegetarian stewing meat, wheat protein, frozen	0,2	0,3	b.d.	1,2	b.d.	5,3
2070	Soya based cream	1,4	0,6	0,2	1,5	b.d.	0,4
2071	Special K Bar, red fruit, enriched	12,4	11,3	7,2	2,7	0,9	34,1
2072	Special K Bar, Chocolate, enriched	7,7	8,7	15,1	2,1	0,8	34,7

Lactose: logical zeros in non-milk products

b.d. = below detection limit

Fat-soluble vitamins and carotenoids

Food nr	Food name	Retinol-	Retinol	Vit-D ₃	Vit-E	α -	β -	β -	Zea-	Vit-K ₁		
		eq.	μ g	μ g	mg	carotene	carotene	Lycopene	crypto.	Lutein	xthantin	μ g
2036	Vegetarian cream replacement 15% fat	6	b.d.	b.d.	2,47	0	67	0	0	0	0	7,7
2037	Vegetarian cream replacement 7% fat	3	b.d.	b.d.	1,24	0	34	0	0	0	0	3,9
2038	Vegetarian Creme Fraiche replacement 24% fat	3	b.d.	b.d.	3,95	0	30	0	0	0	0	13,6
2039	Vegetarian whipping cream replacement 20% fat	13	b.d.	0,13	1,38	0	159	0	0	0	0	3,6
2040	Vegetarian coffee cream replacement 10% fat	4	b.d.	0,21	2,61	0	46	0	0	0	0	10,6
2041	Vegetarian vanilla sauce 12% fat	31	b.d.	b.d.	0,35	0	376	0	0	0	0	b.d.
2042	Creme Fraiche Blue Cheese 15% fat	154	148	b.d.	0,39	0	66	0	0	50	2	4,9
2043	Creme Fraiche 13% fat, different flavours	132	119	b.d.	0,76	0	143	580	46	51	64	7,2
2044	Creme Fraiche, 28% fat, different flavours	279	269	0,1	0,75	b.d.	127	424	b.d.	12	b.d.	7,7
2045	Processed cheese spread (enriched with ABCDE)	587	583	3,63	4,03	0	43	0	0	3	0	0,6
2046	Fermented cream (Mini Fraiche) 5% fat	52	50	b.d.	0,12	0	22	0	0	0	0	0,4
2047	Processed cheese spread 12% fat	148	143	0,13	0,36	0	60	0	0	4	0	0,8
2048	Fermented milk (Fjällfil) 4,2% fat	47	45	b.d.	0,10	0	19	0	0	0	0	0,3
2049	Yoghurt (Fjällyoghurt) 3,6% fat	38	36	b.d.	0,16	0	19	0	6	5	18	0,5
2050	Low fat mayonnaise, < 0.5% fat	16	0	0	0,06	b.d.	194	0	0	0	0	b.d.
2051	White chocolate	76	73	0,33	0,67	4	31	b.d.	0	20	0	6,1
2052	Dark chocolate >70% cocoa	2	b.d.	0,62	0,66	9	16	0	b.d.	12	0	7,6
2053	Dark chocolate, < 70% cocoa	2	b.d.	0,54	0,60	7	14	0	b.d.	21	0	5,1
2054	Chocolate, low cocoa content, <35% cocoa	0	b.d.	b.d.	0,29	0	0	0	0	6	0	1,0
2055	Milk chocolate,	61	58	0,29	0,74	4	32	0	0	16	0	5,8
2056	Meat for kebab, frozen, ready to fry, average value	25	20	0,15	0,33	b.d.	63	b.d.	b.d.	10	b.d.	3,9
2057	Risotto rice	0	0	0	0,03	b.d.	b.d.	b.d.	0	2	0	b.d.

Food nr	Food name	Retinol- eq.	Retinol µg	Vit-D ₃ µg	Vit-E mg	α- carotene µg	β- carotene µg	Lycopene µg	β- crypto. µg	Lutein µg	Zea- xthantin µg	Vit-K ₁ µg
2058	Roasted onion	4	0	0	7,13	b.d.	37	b.d.	29	18	25	22,7
2059	Ice cream lolly raspberry/milk 5,5% fat	47	46	0,48	0,28	0	20	0	0	12	0	0,9
2060	Ice cream lolly 10% fat	90	79	0,16	0,70	b.d.	140	0	0	0	0	1,2
2061	All-Bran fibre Bar Natural	5	5	0,46	7,92	0	b.d.	0	0	65	11	5,7
2062	Wheat crisp bread sandwich, different fillings	58	41	0,17	1,83	b.d.	206	420	b.d.	49	0	5,2
2063	Rye crisp bread sandwich, different fillings	79	58	0,11	1,68	b.d.	256	138	b.d.	9	b.d.	2,6
2064	Falafel frozen (chick pea croquette)	9	0	0,14	1,99	b.d.	108	b.d.	4	359	135	35,6
2065	Hotch Potch vegetarian, frozen	0	0	0	0,21	0	0	3	0	17	0	0,9
2066	Soya sausage, frozen	4	b.d.	0,11	8,74	0	34	0	25	44	46	5,1
2067	Vegetarian balls, frozen	2	b.d.	b.d.	4,06	0	18	0	11	36	19	1,1
2068	Vegetarian mince, soya protein, frozen	0	0	0	3,18	0	0	0	0	8	0	2,4
2069	Vegetarian stewing meat, wheat protein, frozen	0	b.d.	b.d.	3,86	0	0	0	0	68	2	3,9
2070	Soya based cream	0	0	0	16,4	0	0	0	0	43	0	4,0
2071	Special K Bar, red fruit, enriched	0	b.d.	b.d.	0,38	b.d.	b.d.	b.d.	0	13	0	1,0
2072	Special K Bar, Chocolate, enriched	0	b.d.	0,33	0,53	b.d.	2	b.d.	0	11	0	1,4

β –crypto. = β –cryptoxantin

Vitamin D: logical zeros in pure plant foods and dishes, exceptions certain mushrooms and enriched foods.

Retinol: logical zeros in pure plant foods and dishes, exception enriched foods.

Water-soluble vitamins

Food nr	Food name	Thiamin mg	Riboflavin mg	Ascorbic acid mg	Niacin mg	Niacin eq	Vit-B₁₂ µg	Vit-B₆ mg	Folate µg
2036	Vegetarian cream replacement 15% fat	0,01	0,06	0	0,03	0,5	0,04	0,01	b.d.
2037	Vegetarian cream replacement 7% fat	0,01	0,07	0	0,04	0,3	0,06	0,02	b.d.
2038	Vegetarian Creme Fraiche replacement 24% fat	0,03	0,21	0	0,07	0,6	0,05	0,03	b.d.
2039	Vegetarian whipping cream replacement 20% fat	0,03	0,16	0	0,09	0,7	0,22	0,04	4
2040	Vegetarian coffee cream replacement 10% fat	0,02	0,15	0	0,09	0,8	0,11	0,04	5
2041	Vegetarian vanilla sauce 12% fat	0,04	0,23	0	0,14	1,2	0,30	0,07	b.d.
2042	Creme Fraiche Blue Cheese 15% fat	0,03	0,17	n.a.	0,12	1,1	0,20	0,04	12
2043	Creme Fraiche 13% fat, different flavours	0,03	0,15	0	0,19	0,9	0,18	0,07	13
2044	Creme Fraiche, 28% fat, different flavours	0,02	0,13	0	0,12	0,6	0,10	0,04	8
2045	Processed cheese spread (enriched with ABCDE)	0,01	0,66	50	0,05	3,4	0,64	0,07	151
2046	Fermented cream (Mini Fraiche) 5% fat	0,04	0,17	0	0,10	1,0	0,33	0,04	13
2047	Processed cheese spread 12% fat	0,02	0,19	0	0,07	3,4	0,48	0,05	14
2048	Fermented milk (Fjällfil) 4,2% fat	0,04	0,16	1	0,09	0,9	0,34	0,04	12
2049	Yoghurt (Fjällyoghurt) 3,6% fat	0,03	0,14	2	0,12	0,8	0,26	0,06	16
2050	Low fat mayonnaise, < 0.5% fat	b.d.	b.d.	n.a.	0,06	0,1	0	b.d.	b.d.
2051	White chocolate	0,03	0,42	n.a.	0,28	1,3	0,53	0,11	11
2052	Dark chocolate >70% cocoa	0,02	0,08	n.a.	0,88	2,5	0,24	0,09	22
2053	Dark chocolate, < 70% cocoa	0,02	0,07	n.a.	0,59	1,6	0,24	0,08	16
2054	Chocolate, low cocoa content, <35% cocoa	0,02	0,11	n.a.	0,56	1,5	0,17	0,07	14
2055	Milk chocolate	0,03	0,47	n.a.	0,38	1,9	0,48	0,11	16
2056	Meat for kebab, frozen, ready to fry	0,05	0,12	n.a.	2,84	5,5	0,90	0,20	5
2057	Risotto rice	0,21	0,04	n.a.	7,39	8,5	0	0,63	25
2058	Roasted onion	0,06	0,11	n.a.	1,28	2,4	0	0,39	78
2059	Ice cream lolly raspberry/milk 5,5 % fat	0,04	0,22	4	0,24	1,0	0,33	0,08	24
2060	Ice cream lolly 10% fat average value	0,06	0,33	0	0,15	1,1	0,48	0,08	15
2061	All-Bran fibre Bar Natural	2,00	2,02	0	17,60	18,7	0,60	2,58	259
2062	Wheat crisp bread sandwich, different fillings	0,14	0,26	n.a.	1,67	3,4	0,22	0,19	64

Annex 7

Food nr	Food name	Thiamin mg	Riboflavin mg	Ascorbic acid mg	Niacin mg	Niacin eq	Vit-B₁₂ µg	Vit-B₆ mg	Folate µg
2063	Rye crisp bread sandwich, different fillings	0,15	0,27	n.a.	1,03	2,9	0,34	0,24	74
2064	Falafel frozen (chick pea croquette)	0,17	0,06	1	0,58	1,8	0	0,27	81
2065	Hotch Potch vegetarian, frozen	0,08	0,04	5	1,82	2,7	0	0,25	24
2066	Soya sausage, frozen	0,04	0,20	20	0,84	3,6	0,11	0,08	49
2067	Vegetarian balls, frozen	0,87	0,24	0	0,86	3,9	0,11	0,11	48
2068	Vegetarian mince, soy protein, frozen	0,51	0,27	0	1,79	4,7	0	0,35	138
2069	Vegetarian stewing meat, wheat protein, frozen	0,86	0,19	0	1,55	6,1	0,14	0,12	20
2070	Soya based cream	0,03	b.d.	0	0,05	0,5	0	0,02	11
2071	Special K Bar, red fruit, enriched	2,50	2,45	67	26,30	27,7	1,24	3,13	329
2072	Special K Bar, Chocolate, enriched	1,49	2,13	48	21,60	23,0	0,78	2,06	292

Ascorbic acid: logical zeros in pure animal products, exception ascorbate added as antioxidant.

B₁₂: logical zeros in pure plant foods and dishes, exception enriched foods

b.d. = below detection limit

n.a. = not analysed

Minerals

Food nr	Food name	P mg	I µg	Fe mg	Ca mg	K mg	Mg mg	Na mg	Se µg	Zn mg
2036	Vegetarian cream replacement 15% fat	32	3	b.d.	31	40	3	99	0,9	0,2
2037	Vegetarian cream replacement 7% fat	30	4	b.d.	41	58	4	17	0,6	0,1
2038	Vegetarian Creme Fraiche replacement 24% fat	62	10	0,1	78	121	8	105	1,6	0,3
2039	Vegetarian whipping cream replacement 20% fat	77	12	b.d.	99	126	9	32	1,3	0,3
2040	Vegetarian coffee cream replacement 10% fat	106	14	b.d.	101	139	9	75	1,3	0,4
2041	Vegetarian vanilla sauce 12% fat	125	18	b.d.	159	224	14	50	1,6	0,5
2042	Creme Fraiche Blue Cheese 15% fat	146	9	0,1	76	139	10	573	1,9	0,5
2043	Creme Fraiche 13% fat, different flavours	74	8	0,4	88	159	11	380	1,1	0,3
2044	Creme Fraiche, 28% fat, different flavours	55	4	0,2	52	128	8	492	1,0	0,2
2045	Processed cheese spread (enriched with ABCDE)	708	6	0,1	276	103	15	957	5,7	2,2
2046	Fermented cream (Mini Fraiche) 5% fat	96	7	b.d.	114	167	11	43	1,5	0,4
2047	Processed cheese spread 12% fat	650	6	0,2	429	90	19	699	4,9	2,3
2048	Fermented milk (Fjällfil) 4,2% fat	93	4	b.d.	114	170	12	38	1,3	0,4
2049	Yoghurt (Fjällyoghurt) 3,6% fat	79	3	0,1	96	141	10	31	1,2	0,4
2050	Low fat mayonnaise, < 0.5% fat	6	3	0,1	14	31	3	966	0,3	0,0
2051	White chocolate	179	23	0,2	203	311	21	79	2,4	0,7
2052	Dark chocolate >70% cocoa	230	2	15,2	55	654	174	12	4,6	2,9
2053	Dark chocolate, < 70% cocoa	173	2	7,9	44	433	121	4	3,4	2,0
2054	Chocolate, low cocoa content, <35% cocoa	152	2	13,3	39	408	114	3	1,7	1,7
2055	Milk chocolate, average value	264	24	2,3	267	509	63	93	3,6	1,4
2056	Meat for kebab, frozen, ready to fry,	143	2	1,8	21	220	15	721	5,0	3,0
2057	Risotto rice	188	1	0,3	5	192	50	1	2,7	1,1
2058	Roasted onion	109	14	1,2	42	405	28	647	2,3	0,9
2059	Ice cream lolly raspberry/milk 5,5 % fat	88	9	0,1	99	249	17	48	1,4	0,3
2060	Ice cream lolly 10% fat	113	9	0,2	129	215	17	62	2,1	0,4
2061	All-Bran fibre Bar Natural	296	5	8,0	86	358	78	361	3,0	1,7
2062	Wheat crisp bread sandwich, different fillings	312	12	1,1	183	303	42	705	3,3	1,6

Annex 8

Food nr	Food name	P mg	I µg	Fe mg	Ca mg	K mg	Mg mg	Na mg	Se µg	Zn mg
2063	Rye crisp bread sandwich, different fillings	414	11	1,5	200	383	57	860	3,6	2,5
2064	Falafel frozen (chick pea croquette)	97	2	2,1	71	247	34	502	1,7	0,9
2065	Hotch Potch vegetarian, frozen	69	1	0,8	18	374	20	314	1,7	0,5
2066	Soya sausage, frozen	88	3	1,2	47	207	28	692	14,4	0,7
2067	Vegetarian balls, frozen	126	4	1,5	76	240	43	74	11,0	0,8
2068	Vegetarian mince, soya protein, frozen	291	2	3,6	103	244	125	271	6,6	1,9
2069	Vegetarian stewing meat, wheat protein, frozen	101	4	8,0	28	147	15	772	11,6	1,1
2070	Soya based cream	43	1	0,3	11	72	13	55	0,4	0,2
2071	Special K Bar, red fruit, enriched	100	1	12,9	34	125	23	507	4,2	0,9
2072	Special K Bar, Chocolate, enriched	107	9	12,8	32	172	38	422	3,6	1,1
2194	Herbal salt with algae	n.a.	908	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

b.d. = below detection limit

n.a. = not analysed

Minerals continued

Food nr	Food name	Cu mg	Cr µg	Mn mg	Mo µg	Ni µg	Co µg
2036	Vegetarian cream replacement 15% fat	b.d.	1,1	b.d.	3	b.d.	b.d.
2037	Vegetarian cream replacement 7% fat	b.d.	b.d.	b.d.	3	b.d.	b.d.
2038	Vegetarian Creme Fraiche replacement 24% fat	b.d.	0,7	b.d.	11	b.d.	b.d.
2039	Vegetarian whipping cream replacement 20% fat	b.d.	0,8	b.d.	3	b.d.	b.d.
2040	Vegetarian coffee cream replacement 10% fat	b.d.	0,5	b.d.	2	b.d.	b.d.
2041	Vegetarian vanilla sauce 12% fat	b.d.	b.d.	b.d.	3	b.d.	b.d.
2042	Creme Fraiche Blue Cheese 15% fat	b.d.	2,1	b.d.	6	b.d.	b.d.
2043	Creme Fraiche 13% fat, different flavours	0,02	2,7	0,05	6	10,9	0,8
2044	Creme Fraiche, 28% fat, different flavours	b.d.	1,5	0,03	8	3,0	b.d.
2045	Processed cheese spread (enriched with ABCDE)	0,02	1,6	b.d.	6	3,1	0,9
2046	Fermented cream (Mini Fraiche) 5% fat	b.d.	b.d.	b.d.	6	b.d.	b.d.
2047	Processed cheese spread 12% fat	b.d.	2,1	b.d.	6	4,2	0,7
2048	Fermented milk (Fjällfil) 4,2% fat	b.d.	b.d.	b.d.	3	b.d.	b.d.
2049	Yoghurt (Fjällyoghurt) 3,6% fat	b.d.	b.d.	0,16	3	0,79	b.d.
2050	Low fat mayonnaise, < 0.5% fat	b.d.	3,3	b.d.	2	3,5	0,6
2051	White chocolate	0,03	4,3	b.d.	9	3,6	b.d.
2052	Dark chocolate >70% cocoa	1,69	107,0	1,77	16	412,0	39,0
2053	Dark chocolate, < 70% cocoa	1,03	76,0	1,04	13	276,0	25,0
2054	Chocolate, low cocoa content, <35% cocoa	0,99	95,0	1,03	12	268,0	23,0
2055	Milk chocolate, average value	0,29	21,7	0,34	12	72,0	6,4
2056	Meat for kebab, frozen, ready to fry,	0,06	7,1	0,14	2	5,9	0,7
2057	Risotto rice	0,17	b.d.	0,77	59	30,7	0,7
2058	Roasted onion	0,14	19,7	0,49	12	19,2	2,7
2059	Ice cream lolly raspberry/milk 5,5 % fat	0,02	3,2	0,39	6	13,3	1,2
2060	Ice cream lolly 10% fat	0,03	2,4	b.d.	12	4,3	b.d.
2061	All-Bran fibre Bar Natural	0,18	15,4	1,94	36	17,5	0,6
2062	Wheat crisp bread sandwich, different fillings	0,20	4,2	0,67	28	10,4	2,0

Annex 8

Food nr	Food name	Cu mg	Cr µg	Mn mg	Mo µg	Ni µg	Co µg
2063	Rye crisp bread sandwich, different fillings	0,23	3,7	1,41	52	6,9	1,7
2064	Falafel frozen (chick pea croquette)	0,21	20,8	0,75	38	75,0	1,5
2065	Hotch Potch vegetarian, frozen	0,13	3,6	0,29	15	8,8	1,0
2066	Soya sausage, frozen	0,18	6,4	0,52	37	16,5	0,9
2067	Vegetarian balls, frozen	0,25	5,6	0,60	44	7,9	1,4
2068	Vegetarian mince, soya protein, frozen	0,49	12,0	1,25	152	127,0	4,3
2069	Vegetarian stewing meat, wheat protein, frozen	0,19	5,8	0,46	25	8,4	1,4
2070	Soya based cream	0,10	1,0	0,18	10	b.d.	b.d.
2071	Special K Bar, red fruit, enriched	0,14	6,4	0,64	22	9,2	0,6
2072	Special K Bar, Chocolate, enriched	0,33	18,4	0,75	24	63,0	5,7

b.d. = below detection limit

Analytical methods used

Water:

Samples were oven dried at $102^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and then gravimetrically analysed to constant weight. SWEDAC accredited method.

Dry ash:

Samples were ashed at $650^{\circ}\text{C}\pm 25^{\circ}\text{C}$ and then gravimetrically analysed to constant weight. SWEDAC accredited method.

Protein.

Nitrogen was determined by Kjeldahl. NMKL nr. 6, 3 Ed. 1976. The nitrogen was converted to protein using factors detailed in the analytical report. SWEDAC accredited method.

Fat:

Fat was determined by different standard methods depending on type of sample. Dairy products were analysed by Röse-Gottlieb: NMKL No. 10 3 Ed. 2001. Samples with high fibre content were analysed by EG method B, Directive 98/64/EG. All other samples were analysed by SBR: NMKL No. 131, 1989. SWEDAC accredited methods.

Starch:

Enzymatic determination by an in house modified method of NMKL No. 145 2 Ed., 1997.

Sugars:

Mono- and disaccharides were analysed by gas chromatography using an in house validated method. (Swedish J. Agric. Res. 4:49-52, 1974.)

Dietary Fibre:

Gravimetric determination of total dietary fibre after enzymatic degradation by AOAC 45.4.07/NMKL 129, 2 Ed. 2003. SWEDAC accredited method.

Fatty acids:

Fatty acids were determined by gas chromatography using a modified IUPAC method. (IUPAC 6th Ed, Part 1, 2.301 and 2.302, 1979) SWEDAC accredited in house method.

Cholesterol:

Cholesterol was determined by gas chromatography using an in house validated method. SWEDAC accredited method.

Inorganics:

Sodium, potassium, calcium, magnesium, phosphorus and molybdenum were determined by ICP (Inductively Coupled Plasma) after wet digestion. In house method accredited for feed not for food by SWEDAC.

Manganese, iron, zinc, copper, nickel, cobalt and chromium were dry ashed at 450°C and treated with 6 M HCl. After evaporation of the HCl, the ash was dissolved in 0.1 M HNO_3 . Cobalt and nickel were analysed by graphite furnace atomic absorption spectrometry (GFAAS) and copper, iron, manganese and zinc by flame atomic absorption spectrometry (FAAS). SWEDAC accredited method, except manganese and cobalt.

Selenium:

Selenium was determined by hydrid-ICP after wet digestion. SWEDAC accredited method.

Iodine:

Spectrophotometric determination by an in house method according to Gig. Sanit. 1971, 36(4), 67-69. SWEDAC accredited method.

Ascorbic acid

HPLC-method with electrochemical detection. National Food Administration in house method. SWEDAC accredited method.

Thiamin

HPLC-method with fluorescence detection after acid and enzymatic hydrolysis. EN 14122. SWEDAC accredited method.

Riboflavin

HPLC-method with fluorescence detection after acid and enzymatic hydrolysis. EN 14152. SWEDAC accredited method.

Folate

Microbiological method using *L. casei* and turbidimetric detection after acid and tri-enzymatic hydrolysis. EN14131. AACC 86-47. SWEDAC accredited method.

Niacin

Microbiological method using *L.plantarum* and turbidimetric detection after acid hydrolysis. SWEDAC accredited method.

Vitamin B₆

Microbiological method using *S.uvarum* and turbidimetric detection after acid hydrolysis. SWEDAC accredited method.

Vitamin B₁₂

Microbiological method using *L. leichmanni* and turbidimetric detection after acid hydrolysis. SWEDAC accredited method.

Fatty soluble vitamins:

Retinol and tocopherols were determined by straight-phase HPLC after saponification and extraction with n-hexane. Vitamin D3 was determined by reversed phase HPLC after saponification, extraction with n-heptane and preparative straight-phase HPLC. Vitamin K1 was determined by reversed-phase HPLC after extraction with n-heptane. SWEDAC accredited methods were used for retinol, tocopherols and vitamin D3.

Carotenoids:

Extraction with ethanol followed by saponification and extraction with dichloromethane. Determination by reversed-phase HPLC with diode-array detection.