MSL Number: MSL-0022302

Title: Estimated Daily Intake of Fatty Acids and the Effect of Substituting MON 87705 Soybean Oil for Liquid Soybean Oil in the UK Adult Population

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Exponent®

Center for Chemical Regulation and Food Safety

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LIST OF ACRONYMS

% en	% Energy
BNF	British Nutrition Foundation
COMA	Committee on Medical Aspects of Food and Nutrition Policy
CoFIDS	Composition of Foods Integrated Dataset
DRV	Dietary reference values
EDI	Estimated Daily Intake
EPA	US Environmental Protection Agency
FA	Fatty Acids
FDA	US Food and Drug Administration
FAO	Food and Agriculture Organization of the United Nations
FSA	UK Food Safety Agency
GRAS	Generally Recognized as Safe
MUFA	Monounsaturated fatty acid
NDNS	National Diet and Nutrition Survey
n-3	omega 3
n-6	omega 6
PUFA	Polyunsaturated fatty acid
RAC	Raw Agricultural Commodity
RRAD	Food Standards Agency Risk Recipe Database
SBO	Soybean oil
UK	United Kingdom

UKDA	United Kingdom Data Archive
WHO	World Health Organization

1 EXECUTIVE SUMMARY

Monsanto Company has developed biotechnology-derived soybean MON 87705 with an improved fatty acid (FA) profile. The oil from MON 87705 has enhanced nutritional characteristics and improved suitability and stability for non-frying food uses.

MON 87705 soybean oil contains the same major FAs that are found in commodity soybean, i.e. 16:0 palmitic, 18:0 stearic, 18:1 oleic, 18:2 linoleic and 18:3 linolenic acids. However, by selectively down-regulating two key enzymes involved in FA biosynthesis in soybean seed, MON 87705 soybean oil is lower in saturated fats (6% vs. 15% of total FA) and higher in monounsaturated 18:1 oleic acid (76% vs. 23% FA), with an associated decrease in the polyunsaturated 18:2 linoleic acid levels (10% vs. 53% FA) relative to commodity soybean. The improved FA profile in MON 87705 soybean oil is achieved through the use of endogenous soybean (*Glycine max* L.) gene segments configured to suppress *FATB* and *FAD2* gene expression, resulting in the desired FA phenotype. The resulting FA profile for MON 87705 soybean oil is comparable to other commercial high oleic vegetable oils such as high oleic canola, high oleic safflower and high oleic sunflower. It is also similar to traditional oils, such as olive oil and canola oil that have a long-history of human consumption. Canola oil was granted Generally Recognized as Safe (GRAS) status by the U.S. FDA in 1985.

MON 87705 soybean oil, like commodity soybean oil, has a polyunsaturated fatty acid (PUFA) content that is not optimal for commercial frying (i.e., high temperature and repeated frying). Therefore MON 87705 soybean oil is not targeted for these applications. With respect to non-frying liquid vegetable oils, market research shows that their largest use in the European Union is for margarine and bottled oils (Alcimed, 2005). An intake assessment was conducted to evaluate the effect of MON 87705 soybean oil when substituted for the liquid soybean oil component of four major food categories in the UK: margarine (stick, spread/tub, and light), salad dressing, mayonnaise and spread, and “home use” liquid soybean oil, which estimate a broad replacement of commodity liquid soybean oil with MON 87705 soybean oil.

Dietary intake of the four target food groups (grams of food per day) was estimated based on food consumption data from the United Kingdom’s National Diet and Nutrition Survey (NDNS).

The NDNS is a recent national survey that is statistically representative of the UK population, and included complete seven-day diet records from more than 1700 subjects. Data are publicly available and are provided at the individual level. This uniquely robust European data set allows tailored intake assessment of target specific foods at the individual food consumption level. Intake data from other European national food consumption surveys are only available in published summaries for broad food groups. These less detailed European data sets limit the ability to target specific foods within broad categories and yield dietary assessments with greatly reduced accuracy and confidence. The UK Food Standards Agency's Risk Recipe Database (RRAD) was used to derive the portion of target foods that are vegetable oils (FSA, 2002). Since recipe data are not available for all target foods in the RRAD database, the average percentage that is vegetable oil for each target food group was calculated based on the available data. The portion of vegetable oil consumed in the UK that is soybean oil was estimated to be 20.5%, based on the FAOSTAT data for the UK (FAOSTAT, 2009). Using this UK FAOSTAT soybean oil consumption statistic and the average percentage of vegetable oil for each target food group, the amount of soybean oil consumed in the target food was estimated.

This European assessment is therefore based on the most accurate and robust data available and incorporates several pivotal assumptions that collectively greatly over-estimate the likely effect of MON 87705 soybean oil on the UK diet. First, it is assumed that total substitution will occur, i.e.100% of the target soybean oil portion of the target foods was replaced with MON 87705 soybean oil. Secondly, every eating occasion of a target food was replaced by a comparable food containing MON 87705 soybean oil, which is highly improbable in the marketplace where multiple brands of foods exist. Further, the portion of vegetable oil in the target foods that is soybean oil is not available from RRAD and was instead estimated based on FAOSTAT disappearance data, which is likely an overestimate of actual consumption (WHO, 2003b; Alcimed, 2007). Finally, it is not possible to distinguish home versus commercially prepared foods from NDNS food descriptions (with a few exceptions). As such, the majority of liquid soybean oil used for commercial ingredient oil is also included in this assessment. Therefore, the results of this study represent theoretical maximum changes in the intake estimates of the five FA, when in reality it is very likely that a lower level of substitution will occur in the marketplace.

On a mean *per capita* basis, the soybean oil component of the target foods contributes an average of 2.3 g/day [1.0 % Energy (% en)] of total fat for the overall UK adult population. Within the adult population, the soybean oil component of target foods contributes 2.7 g/day (1.0% en) of total fat for the adult males and 1.8 g/day (1.0% en) of total fat for the adult females. Based on analysis conducted by the UK Food Standard Agency (FSA), the mean daily total fat intake (from all food sources) for adult males is 86.5 g/day and for adult females is 61.4 g/day (Henderson et al, 2003). Since the soybean oil portion being replaced represents a very small portion of the total daily dietary fat (approximately 3%), the substitution is expected to have a proportionally modest influence on the overall dietary fat and FA intake among the UK adult population.

The substitution of MON 87705 soybean oil for the liquid soybean oil in salad dressings, mayonnaise and spreads, liquid soybean oil used in homes and margarines resulted in the following changes in FA intake **from the soybean oil component of the target foods** for the overall adult UK population:

- A projected decrease in the mean *per capita* intake of palmitic acid (16:0) from 0.2 g/day to 0.1 g/day; and decreases at the 90^{th} and 97.5^{th} percentile *per user* from 0.6 g/day to 0.1 g/day, and 0.9 g/day to 0.2 g/day, respectively. These predicted decreases are consistent with the FA profile for MON 87705 soybean oil having a lower percentage of palmitic acid than the conventional liquid soybean oil.
- No expected appreciable change in stearic acid (18:0) intake, with mean *per capita*, 90^{th} and 97.5^{th} percentile *per user* estimates remaining at 0.1 g/day, 0.2 g/day and 0.3 g/day, respectively. This is consistent with the FA profile of MON 87705 soybean oil having a slightly lower percentage of stearic acid than the commodity liquid soybean oil.
- A projected increase in oleic acid (18:1) intake from 0.5 g/day to 1.7 g/day at the mean *per capita;* and increases at the 90^{th} and 97.5^{th} percentile *per user* from 1.1 g/day to 4.0 g/day and 1.8 g/day to 6.6 g/day, respectively. These predicted increases are consistent with the FA profile of MON 87705 soybean oil having a higher percentage of oleic acid than the commodity liquid soybean oil

- A projected decrease in linoleic acid (18:2) intake from 1.2 g/day at the mean *per capita* to 0.2 g/day, and decreases at the 90th and 97.5th percentile *per user* estimates from 2.7 g/day to 0.5 g/day, and 4.4 g/day to 0.9 g/day, respectively. These predicted decreases are consistent with the FA profile of MON 87705 soybean oil having lower percentage of linoleic acid than commodity liquid soybean oil.
- No change in linolenic acid (18:3), at the mean *per capita* (0.2 g/day), a small decrease from 0.4 g/day to 0.3 g/day at the 90th percentile *per user*, and no change at the 97.5th percentile *per user* (0.6 g/day). These estimates are consistent with the FA profile of MON 87705 soybean oil having a slightly lower percentage of linolenic acid than the commodity liquid soybean oil.

Vegetable oils, including traditional non-hydrogenated soybean oil and MON 87705 soybean oil, are not significant *trans* fat sources (Tarrago-Trani et al., 2006). Therefore, the replacement of liquid soybean oil components of target foods with MON 87705 soybean oil is not expected to have an effect of the current dietary intake of *trans* fat. As such, *trans* fat was excluded from this study analysis.

Estimated effect on total diet

The current total dietary intakes of saturated fat, monounsaturated fatty acid (MUFA) and PUFA for the adult UK population as % en (% Energy) are available in the published literature (Henderson et al., 2003). The potential changes to the total diet associated with the replacement of the soybean oil portion of the target foods with MON 87705 soybean oil were extrapolated using the proportional changes in the FA. In this approach, shifts in total diet FA levels are a function of shifts in target food FA levels, adjusted for the proportion of the total diet these target foods represent. For example, if 18:2 linoleic acid is decreased by 80.0% in the target foods, and the target foods represent 3% of foods (based on the proportion of fat contained within the foods relative to the total diet), then this results in a modest decrease in linoleic acid in the total diet of 2.4% (0.80 x 3% = 2.4%). Based on this approach, the mean current dietary intake of saturated FA for UK adult males is predicted to decrease from 13.4% en to 13.0% en, MUFA to increase from 12.1% en to 13.2% en, n-6 PUFA (which is largely 18:2 linoleic acid) to decrease from 5.4% en to 5.3% en, and n-3 PUFA (which is largely 18:3 linolenic acid) to remain unchanged.

For UK adult females, the current dietary intake of saturated fatty acid is predicted to decrease from 13.2% en to 12.8% en, MUFA to increase from 11.5% en to 12.5% en, n-6 PUFA to decrease from 5.3% en to 5.2% en, and n-3 PUFA to remain unchanged.

Following the substitution of commodity soybean oil with MON 87705 soybean oil, saturated fat consumption, notably from palmitic acid, is expected to decrease such that it would be more in line with UK dietary guidance (from 13.4% en to 13.0% en for males and from 13.2% en to 12.8% en for females). The increase in oleic acid seen in this substitution (from 12.1% en to 13.2% en for males and from 11.5% en to 12.5% en for females) is not likely to have any nutritional consequences and may in fact have positive ramifications given the predicted concomitant decrease in intake of saturated fat. Studies suggest that substitution of oleic acid for saturated fat in the diet can reduce low density lipoprotein cholesterol (USDHHA/USDA, 2004). Following substitution of commodity soybean oil with MON 87705 soybean oil, there is no expected change in n-3 PUFA intake and a slight decrease in n-6 PUFA intake (from 5.4% en to 5.3% en for males and from 5.3% en to 5.2% en for females). Total PUFA intake post-substitution was estimated to be 6.3% en for males and 6.2 % en for females. These levels remain in line with intake recommendations for reduction of diet-related chronic disease (i.e., 6-10% en; BNF, 2004; WHO, 2003a).

Based on the highly conservative approach taken in this assessment, the substitution of MON 87705 soybean oil for liquid soybean oil in the UK results in nutritionally positive shifts in saturated fat (particularly palmitic acid) intakes, and modestly changes in other FA that do not present nutritional concerns.

2 INTRODUCTION

An analysis was conducted to determine the effect of substituting commodity liquid soybean oil with a new liquid soybean oil (MON 87705 soybean oil) for four major food categories, i.e., salad dressings, mayonnaise and spreads, "home-use" liquid soybean oil, and margarines (stick, tub, and light varieties) on the current intake of total fat and five fatty acids (FA: palmitic, stearic, oleic, linoleic, linolenic) among UK adults. MON 87705 soybean oil has higher oleic (18:1), lower saturate [palmitic (16:0) and stearic (18:0)] and lower linoleic (18:2) acid levels than the commodity liquid soybean oil. Data and methods used to conduct the assessment and results are summarized in this report.

3 DATA AND METHODS

Five major sources of data were used to conduct the analysis: (1) Food intake data and nutrient composition from UK National Diet & Nutrition Survey: Adults Aged 19 to 64 Years (Office for National Statistics, 2005), (2) the Food Standards Agency risk recipes database (RRAD) public version 1.11 (FSA, 2002), (3) FAOSTAT Annual food consumption for UK (FAOSTAT, 2009) (4) "Baseline" FA profile for liquid soybean oil in target foods from McCance and Widdowson's The Composition of Foods integrated dataset (CoF IDS)[1] and (5) FA profile for new oil, MON 87705 soybean oil (Monsanto, 2009). The following sections describe the data and method in more details.

3.1 Food Consumption Data and Target Foods

MON 87705 soybean oil, like commodity soybean oil, has a PUFA content that is not optimized for commercial frying (i.e., high temperature and repeated frying). Therefore, MON 87705 soybean oil is not targeted for these applications. With respect to non-frying liquid vegetable oils, market research shows that their largest use in the European Union is for margarine and bottled oils (Alcimed, 2005). An intake assessment was conducted to evaluate the effect of MON 87705 soybean oil when substituted for the liquid soybean oil component of four major food categories in the UK: margarine (stick, spread/tub, and light), salad dressing, mayonnaise and spread, and "home use" liquid soybean oil, which estimate a broad replacement of commodity liquid soybean oil with MON 87705 soybean oil. The list of specific foods included in each target food category is in Appendix A.

The UK government periodically conducts food consumption surveys for segments of its population. Dietary intake of the four target food groups (grams of food per day) was estimated based on food consumption data from the United Kingdom's National Diet and Nutrition Survey (NDNS). The NDNS program is sponsored jointly by the Food Standards Agency and the Department of Health. The program is split into separate surveys conducted at approximately

[1] http://www.food.gov.uk/science/dietarysurveys/dietsurveys/ (accessed 6/10/09)

three yearly intervals. Each survey examined a nationally representative sample drawn from different population groups:

- Children aged 1½ to 4½ years (UKDA, 1995)
- Young people aged 4 to 18 years (UKDA, 2001)
- Adults aged 19 to 64 years (Office for National Statistics, 2005)

Each survey collected 4 or 7-day[2] weighted food records and used a stratified multi-stage random probability design. The sampling units were selected from within private households throughout Great Britain using postal sectors (United Kingdom Data Archive (UKDA), 1995, 2001) or local authority wards (UKDA, 1991).

The UK adult population (19-64 years) average and upper percentile weighted estimated daily intakes of target foods were calculated using only respondents with reliable dietary record data and reported bodyweights on both a g/day and g/kg/day basis. Separate estimates were provided for adult males and adult females. Specifically, the 7-day average daily intakes of target foods for each survey participant were derived by summing the reported intake over the 7 days divided by 7.

3.2 Oil and Soybean Oil Intake

The soybean oil portion of the target foods is the intended portion to be replaced with MON 87705 soybean oil. The UK Food Standards Agency provides some information about the ingredients at the raw agricultural commodity (RAC) level for different foods in its Risk Recipe Database (RRAD), (FSA, 2002). To derive the portion of target foods that are vegetable oils, the recipes available in RRAD were used. Since recipe data are not available for all target foods in the RRAD database, the average percentage that is vegetable oil for each target food group was calculated based on the available data. These average oil percentages for each food group are summarized in Table 1. It should be noted that while home use liquid soybean oil is targeted for

[2] The adult and teens surveys provide 7 days of food diary data. The dataset for children ages 1½ to 4½ years provides 4 days of food diary data.

replacement with MON 87705 soybean oil, based on the NDNS food description, it is not possible to distinguish home versus commercially prepared foods (with a few exceptions). Therefore, the inclusion of oil intake from all mixed dishes (and the soybean oil portion of the oil) in the replacement analysis is conservative and an overestimate of the actual home use liquid soybean oil that would be replaced with MON 87705 soybean oil.

Foods with margarine as components are separated from foods with description as margarine and spread (and not as component of food). The average margarine portions of mixed foods were estimated based on recipe data from RRAD. Margarine as foods (not as a component of a food) do not have ingredients listed in RRAD recipes and thus were assumed to have 100% vegetable oil to reflect a maximum replacement scenario.

The portion of vegetable oil consumed in the UK that is soybean bean oil was estimated based on the FAOSTAT data for the UK. Based on annual (tonnage) food disappearance data (average over period of 2001-2003), soybean oil accounts for 20.5% of vegetable oil disappearance in the UK (FAOSTAT, 2009). This soybean oil consumption statistic was applied to the average percentage of vegetable oil in the target foods to derive the percentage of target foods that is soybean oil (g soybean oil/100 g food basis). These percentages are summarized in Table 1. These values are conservative as FAOSTAT represent disappearance data. When taking into account waste and non-food uses, the actual percentage of soybean oil consumed may be as low as 13% of total vegetable oil in the UK (Alcimed, 2007).

Table 1. Oil and Soybean Oil Content in Target Food Groups

MON 87705 soybean oil Target Food Category		Average % Oil (g oil/100g food)[1]	% of food intake that is SBO to be replaced[2] (g SBO/100g food)
Salad Dressing	Creamy Salad Dressing	76.8%	15.8%
margarine (light, stick, spread)	margarine-spread	100.0%	20.5%
	margarine-spread portion-mixed dishes	15.4%	3.2%
	margarine-stick	100.0%	20.5%
	margarine-stick portion-mixed dishes	15.0%	3.1%
Mayonnaise and Spread	Mayonnaise	45.8%	9.4%
	mayonnaise portion	27.7%	5.7%
Salad Dressing	Oil and Vinegar Dressing	12.4%	2.5%
"Home use" Liquid SBO	vegetable oil portion-breads	29.5%	6.1%
	vegetable oil portion-egg dishes	6.9%	1.4%
	vegetable oil portion-fish dishes	7.8%	1.6%
	vegetable oil portion-fruit dishes	9.1%	1.9%
	vegetable oil portion-meat &poultry dishes	5.5%	1.1%
	vegetable oil portion-potato dishes	6.7%	1.4%
	vegetable oil portion-rice&pasta	15.2%	3.1%
	vegetable oil portion-sauce	1.4%	0.3%
	vegetable oil portion-veggie dishes	8.4%	1.7%

[1]From UK Risk Recipe Database
[2]Based on FAOSTAT 2001-2003 tonnage disappearance data, 20.5% of vegetable oil is soybean oil.

The basic calculation of soybean oil intake (target for replacement with MON 87705 soybean oil) from the target foods is as follows:

$$\frac{\text{Target Food Group Consumption (g)}}{\text{Day}} \times \frac{\text{g vegetable oil}}{\text{100g Food}} \times \frac{\text{g soybean oil}}{\text{100 g vegetable oil}}$$

3.3 Fatty Acid Estimation Procedures

For the baseline FA intake assessment, the baseline FA profile for soybean oil as reported in the UKFSA McCance and Widdowson's Composition of Foods Integrated Dataset (CoFIDS) was used. For the replacement FA intake assessment, the FA profile for MON 87705 soybean oil (Monsanto, 2009) was used. The baseline and MON 87705 soybean oil FA profiles are summarized in Table 2

Table 2. Profile for Commodity Soybean Oil and Replacement MON 87705 soybean oil (g/100 g fat)

Oil	16:0	18:0	18:1C	18:2n-6	18:3n-3	References
Soybean oil	10.7	3.8	20.8	51.5	7.3	UK FSA, McCance & Widdowson's Composition of Foods Integrated Dataset (CoF IDS)
MON 87705 soybean oil	2.4	3.3	76.5	10.1	6.7	Monsanto, 2009

The basic calculation of FA intake from the target oil is as follows:

$$\frac{\text{Soybean oil intake from target food group (g)}}{\text{Day}} \times \frac{\text{g FA}}{\text{100 g Soybean oil}}$$

In general, the following shifts in the FA profile between the current soybean oil and new soybean oil (MON 87705 soybean oil) are observed:

- Palmitic (16:0): a decrease of 77.6% from 10.7 to 2.4%
- Stearic (18:0): a decrease of 13.2% from 3.8 to 3.3%
- Oleic (18:1C): an increase of 267.8% from 20.8 to 76.5%
- Linoleic (18:2n-6): a decrease of 80.4% from 51.5 to 10.1%
- Linolenic (18:3n-3): a decrease of 8.2% from 7.3 to 6.7%

Vegetable oils, including traditional non-hydrogenated soybean oil and MON 87705, are not significant *trans* fat sources (Tarrago-Trani et al., 2006). Therefore the replacement of liquid soybean oil components of target foods with MON 87705 is not expected to have an effect of the current dietary intake of *trans* fat. As such, *trans* fat was excluded from this study analysis.

This assessment incorporates several pivotal assumptions that collectively over-estimate the likely effect of this new oil on the UK diet. First, it is assumed that total substitution will occur, i.e.100% of the target soybean oil portion of the target foods was replaced with the new oil. Secondly, every eating occasion of a target food was replaced by a comparable food containing MON 87705 soybean oil, which is improbable in the marketplace where multiple brands of foods

exist. Further, the portion of vegetable oil in the target foods that is soybean oil is not available from RRAD and was instead estimated based on FAOSTAT disappearance data, which is likely an over-estimate of actual consumption (WHO, 2003b; Alcimed, 2007). Finally as noted above, the inclusion of oil intake from all mixed dishes (both home and commercially prepared foods) in the replacement analysis is conservative and an overestimate of actual home use liquid soybean oil that would be replaced with MON 87705 soybean oil. As such, the majority liquid soybean oil used for commercial ingredient oil is also included in this assessment. Therefore, the results of this study represent theoretical maximum changes in the intake estimates of the five FA, when in reality it is very likely that a lower level of substitution will actually occur in the marketplace.

The percentage changes in intake for the five FA between pre- and post- oil replacement are expected to be identical to the observed shift in the FA profile of the current soybean oil and the new soybean oil under the assumption of 100% substitution.

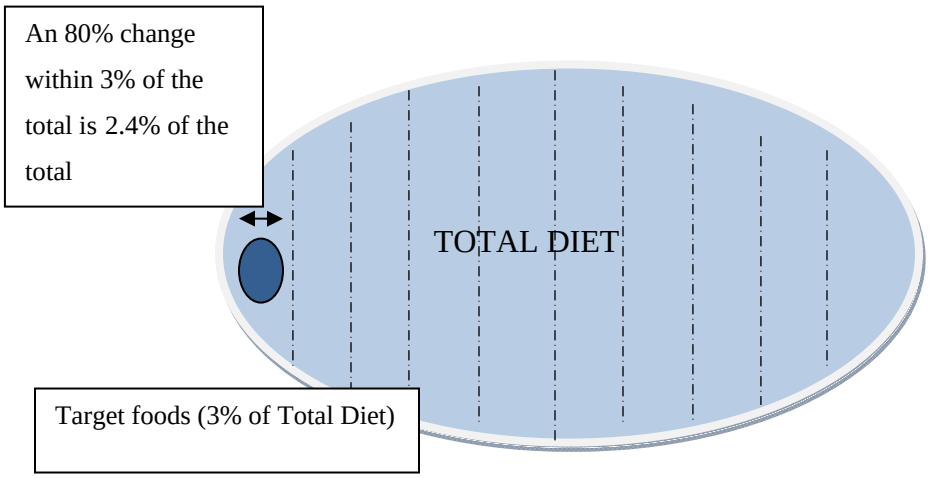
3.4 Total Diet Effect Estimation Procedures

Baseline intake of FA from the target foods is based on multiple assumptions as described in Sections 3.1-3.3 above and is focused on the vegetable oil portion of the diet. The total diet baseline intakes, on the other hand, that are available in the published literature (e.g., Henderson et al., 2003) were based on all food sources (e.g., including milk and meat products), and derived directly from food consumption and nutrient composition data. It is probable that the absolute baseline FA values for the target foods estimated here are different from the values encompassed in their contribution to the published total diet values as a result of the methodological differences, however, the magnitude of those differences is not known. When determining the effect of substituting MON 87705 soybean oil for commodity oil in these target foods on the total diet, it is more appropriate to consider the proportional changes in the FA rather than the absolute change, and extrapolate that to the total diet.

In this approach, the relative change of each FA in the total diet is estimated using the change in the target foods and the prevalence of the target foods in the total diet. That is, shifts in total diet FA levels are a function of shifts in target food FA levels, adjusted for the proportion of the total

diet these target foods represent. For example, if 18:2 linoleic acid is decreased by 80 % in the target foods, and the target foods represent 3% of foods (based on the proportion of fat contained within the foods relative to the total diet, then this results in a decrease in linoleic acid in the total diet of 2.4% (0.80 x 3% = 2.4%). This concept is illustrated in Figure 1.

Figure 1. Target Foods and Shift in FA in Context of Total Diet



This approach uses conditional probability theory principles (Hogg and Craig, 1979) which have been successfully applied in other dietary and ingestion related exposure assessments (e.g., EPA, 1997; EPA, 1998, EPA, 2003).

4 RESULTS

4.1 Baseline: Estimated Daily Intakes of Total Fat and selected Fatty Acids from Target Soybean Oil Component of the Targeted Foods

The mean, 90th, 95th, and 97.5th percentile intakes of total fat and five major FA from the soybean oil (prior to substitution with MON 87705 soybean oil) were estimated. The *per capita* intakes for the UK adult population expressed in g/day and as % en are presented in Tables 3-A and 3-B, respectively. Tables 4-A and 4-B provide the *per* user intakes in g/day and as % en, respectively. Data are provided for the total population as well as male and female sub-groups. The *per capita* estimate is calculated by dividing the total amount of food available to (or consumed by) the population by the total number of people in the population. This reflects the amount of the food available to the total population although not necessarily the amount of the food actually consumed by an individual. A "user" is anyone who reported consuming a food on either of the survey days ("at least once in 7 days" for the NDNS adult survey) (Pao et al 1982). Per-user consumption is calculated by dividing the total amount of food consumed by the number of people who reported eating the food (Tran and Barraj, 2007).

On the *per capita* basis for adults 19-64 yrs, the amount of soybean oil (total fat) that was captured (targeted) in the substitution is 2.3 g/day (1.0% en) at the mean and 5.0 g/day (2.3% en), 6.5 g/day (2.8% en) and 8.4 g/day (3.4% en) at the 90th, 95th, and 97.5th percentiles, respectively. On the *per user* basis for adults 19-64 yrs, the amount of soybean oil (total fat) captured in this substitution is 2.4 g/day (1.1% en) at the mean and 5.2 g/day (2.4% en), 6.6 g/day (2.9% en) and 8.6 g/day (3.4% en) at the 90th, 95th and 97.5th percentiles, respectively. The *per capita* and *per user* intake estimates are similar since >90% users of the population are users of at least one of the target foods. The current (pre-replacement) mean *per capita* intake of palmitic, stearic, oleic, linoleic, and linolenic acids from the soybean oil component of target foods are 0.2 g/day, 0.1 g/day, 0.5 g/day, 1.2 g/day, and 0.2 g/day, respectively (See Table 3-A). The amounts of each FA relative to the total are consistent with the baseline FA profile for the current soybean oil. Similarly, consistent with the baseline FA profile for the current soybean oil, the mean *per user* intake of palmitic, stearic, oleic, linoleic, and linolenic acids are 0.3 g/day, 0.1 g/day, 0.5 g/day, 1.2 g/day, and 0.2 g/day, respectively (See Table 4-A).

As stated above, on the mean *per capita* basis, the soybean oil component of the target foods contributes an average of 2.3 g/day [1.0 % Energy (% en)] of total fat for the overall UK adult population. Within the adult population, the soybean oil component of target foods contributes 2.7 g/day (1.1% en) of total fat for the adult males and 1.8 g/day (1.0% en) of total fat for the adult females. Based on analysis conducted by the UK Food Standard Agency (FSA), the mean daily total fat intake (from all food sources) for adult males is 86.5 g/day and for adult females is 61.4 g/day (Henderson et al, 2003). Therefore, the soybean oil portion being replaced represents approximately 3% of total daily dietary fat.

4.2 Replacement: Estimated Daily Intakes of Total Fat and Selected Fatty Acids from MON 87705 Soybean Oil Component of the Targeted Foods

The mean, 90th, 95th, and 97.5th percentile intakes of total fat and five major FA from MON 87705 soybean oil in target foods were estimated. The *per capita* intakes for the UK adult population expressed in g/day and as % en are presented in Tables 5-A and 5-B, respectively. Tables 6-A and 6-B provide the *per* user intakes in g/day and as % en, respectively. Data are provided for the total population as well as male and female sub-groups. The post-replacement mean *per capita* intake of palmitic, stearic, oleic, linoleic and linolenic acids are 0.1 g/day, 0.1 g/day, 1.7 g/day, 0.2 g/day, and 0.2 g/day respectively (See Table 5-A). The mean *per user* intake of palmitic, stearic, oleic, linoleic and linolenic acids are 0.1 g/day, 0.1 g/day, 1.9g/day, 0.2 g/day, and 0.2 g/day, respectively (See Table 6-A).

4.3 Effect of Replacement on the Target Oil Portion of Target Foods

The percent change in the intake of the five FA from the portion of the oil that were replaced in the target foods were calculated based on the intake estimates of the five FA pre-replacement (Tables 3-A&B, 4-A&B) and post-replacement (Tables 5-A&B, 6-A&B). These changes are summarized in Tables 7-A (mean *per capita*), 7-B (90th percentile *per user*), and 7-C (97.5th percentile *per user*).

Consistent with the decrease in palmitic acid in the MON 877705 compared to commodity soybean oil, the mean *per capita* intake of palmitic acid for the UK adult population decreased from 0.2 g/day (pre-replacement) to 0.1 g/day (post-replacement), 50% reduction.

Also consistent with the slight decrease in stearic acid in MON 87705 soybean oil, no appreciable changes in intake estimate were observed for stearic acid. The mean *per capita* intake of stearic acid remained at 0.1 g/day and the mean *per capita*.

As expected with the increase in oleic acid in MON 87705 soybean oil, the mean *per capita* intake of oleic acid increased from 0.5 g/day (pre-replacement) to 1.7 g/day (post-replacement), which is approximately a 240% increase.

Also as expected with the decrease in linoleic acid in MON 87705, the mean *per capita* intake of linoleic decreased from 1.2 g/day (pre-replacement) to 0.2 g/day (post-replacement), an 83% reduction.

Finally, consistent with the slight decrease in linolenic acid in MON 887705, no appreciable change in intake estimate was found for linolenic acid. The mean *per capita* intake of linolenic acid remained at 0.2 g/day.

Similar shifts in direction and magnitude between pre- and post-replacement for the five FAs were also observed when intakes are expressed in % en.

4.4 Effect of Replacement on the Total Diet

Based on the percent change in the intake (as % en) of the five FA from the portion of the oil that were replaced in the target foods (Table 7-A, mean *per capita*) and the average portion of dietary fat targeted for replacement with MON 87705 soybean oil being 3%, the following average percentage change in the intake of the five FA in the total diet can be predicted:

C16:0 -100% x 3% = -3.0%
C18:0 0% x 3% = 0%
C18:1 300% x 3% = 9.0%
C18:2 -80% x 3% = -2.4%
C18:3 0% x 3% = 0%

From the above predicted percentage change of the five FA, the dietary intake of saturated fat, MUFA and PUFA post substitution with MON 87705soybean oil can be predicted as followed:

[Current total dietary intake (% en)] + [Current total dietary intake (% en) x predicted change (%)]

For example, the current total dietary intake of saturated fat is 13.4% en and the predicted change from the replacement in target food is -3.0% for C16:0, hence, the total dietary intake of saturated fat post substitution could be predicted as followed:

[13.4% en] + [13.4% en x (-3%)] = 13.0% en

The current total dietary intakes of saturated fat, MUFA and PUFA for the adult UK males and females (as % en) are available in the published literature (Henderson et al., 2003) and summarized in Table 8. Using the above calculation, the total dietary intakes of these fatty acids post substitution with MON 87705 soybean oil were estimated. Overall, the current dietary intake of saturated fat for UK adult males is predicted to decrease from 13.4% en to 13.0% en, MUFA to increase from 12.1% en to 13.2% en, n-6 PUFA to decrease from 5.4% en to 5.3% en, and n-3 PUFA. For UK adult females, the current dietary intake of saturated fat is predicted to decrease from 13.2% en to 12.8% en, MUFA to increase from 11.5% en to 12.5% en, n-6 PUFA to decrease from 5.3% en to 5.2% en, and n-3 PUFA to remain unchanged.

Table 8. Total Dietary Intake of Fatty Acids (% en) – Current and Post Substitution with MON 87705 Soybean Oil

	Current Dietary Intake[1] (% en)		Predicted Changes (% en)		Predicted Intake Post Substitution (% en)	
Fatty Acids	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**
Saturated fat	13.4	13.2	-0.4	-0.4	13.0	12.8
MUFA	12.1	11.5	1.1	1.0	13.2	12.5
n-3 PUFA	1.0	1.0	-0.0	-0.0	1.0	1.0
n-6 PUFA	5.4	5.3	-0.1	-0.1	5.3	5.2

[1]Henderson et al 2003 (pages 54 and 55)

5 CONCLUSIONS

On a *per capita* basis, the estimated amount of soybean oil (total fat) that was in targeted foods would be 2.3 g/day (1.0% en) at the mean and 5.0 g/day (2.3% en), 6.5 g/day (2.8% en) and 8.4 g/day (3.4% en) at the 90th, 95th, and 97.5th percentiles, respectively, for the overall UK adult population. On a *per user* basis, the amount of soybean oil (total fat) in targeted foods would be 2.4 g/day (1.1% en) at the mean and 5.2 g/day (2.4% en), 6.6 g/day (2.9% en) and 8.6 g/day (3.4% en) at the 90th, 95th, and 97.5th percentiles, respectively. The *per capita* and *per user* intake estimates are similar since there are >90% users for the target foods. Total fats would not be changed by the substitution with MON 87705 soybean oil.

On a mean *per capita* basis, within the UK adult population, the soybean oil component of target foods contributes 2.7 g/day (1.1% en) of total fat for the adult males and 1.8 g/day (1.0% en) of total fat for the adult females. Based on analysis conducted by the UK Food Standard Agency (FSA), the mean daily total fat intake (from all food sources) for adult males is 86.5 g/day and for adult females is 61.4 g/day (Henderson et al, 2003). Since the soybean oil portion being replaced represents a very small portion of the total daily dietary fat (approximately 3%), the substitution is expected to have a modest effect on the overall dietary fat and FA intake among the UK adult population.

WHO and the UK Committee on Medical Aspects of Food and Nutrition Policy (COMA) have reviewed the nutritional science for FA and set recommended intakes (WHO, 2003a; BNF, 2004). For many micronutrients (i.e., vitamin and minerals), intake recommendations are set to prevent acute symptoms of deficiency in most of the population. For the macronutrients fat and carbohydrates, on the other hand, intakes can vary widely in a population and still be supportive of overall health (IOM/NAS, 2002). For fats specifically, recommendations have centered on goals for the reduction of diet-related chronic disease (WHO, 2003a). WHO intake goals "represent the population average intake that is judged to be consistent with the maintenance of health in a population" (WHO, 2003a). COMA set dietary recommend values (DRVs) for fats based on "desirable adult population averages". Broad ranges of individual FA intake can be nutritionally adequate and the goal of health organizations is to shift the overall intake pattern

towards increased unsaturated FA intake and decreased saturated and *trans* fatty acid intake to improve chronic health (WHO, 2003a).

At baseline, from the target soybean oil component of the target foods, the mean *per capita* intake of palmitic (16:0) for the UK adult population was at 0.2 g/day (0.6 g/day and 0.9 g/day at the 90^{th} and 97.5^{th} percentiles *per user*, respectively) and after substitution with MON 87705 soybean oil, the mean *per capita* intake of palmitic acid was projected to decrease to 0.1 g/day (0.1 g/day and 0.2 g/day at the 90^{th} and 97.5^{th} percentiles *per user*, respectively). Substitution of liquid soybean oil with MON 87705 soybean oil resulted in no change in the intake of stearic acid (18:0), which remains at 0.1 g/day for mean *per capita* and 0.2 g/day and 0.3 g/day for 90^{th} and 97.5^{th} percentiles *per user*, respectively. In the UK, COMA set DRVs for saturated fat at 11% en in the diet (BNF, 2004). The World Health Organization (WHO, 2003a) set these targets even lower at <10 % en. Based on the predicted reduction in the palmitic acid intake (as % en) from the soybean oil portion of the target foods being -100% and the average portion of dietary fat targeted for replacement with MON 87705 soybean oil being 3%, the effect on the total dietary saturated fats was projected to be an overall decrease of 3% (-100% x 3% = -3%). The current total dietary saturated fat intake among the UK adult population is 13.4% en for males and 13.2% for females (Henderson et al 2003). With the projected 3% decrease, the saturated fat intake post replacement with MON 87705 soybean is predicted to be 13.0% en for males and 12.8% en for females. These decreases for saturated fat consumption following substitution of conventional soybean oil with MON 87705 soybean oil are thus in line with dietary guidance.

The substitution of MON 87705 soybean oil for the liquid soybean oil in salad dressings, mayonnaise and spreads, liquid soybean oil used in the home, and margarines resulted in a projected increase in oleic acid intake from the soybean oil component from 0.5 g/day to 1.7 g/day at the mean *per capita* for the overall adult UK population. Similarly the intake of oleic acid from the soybean oil component for the 90^{th} and 97.5^{th} percentiles *per user* were predicted to increase from 1.1 g/day to 4.0 g/day and from 1.8g/day to 6.6 g/day, respectively. COMA has recommended that MUFA provide 12% of total energy in the diet (BNF, 2004). According to Henderson et al. (2003), current average British adult intake of MUFA is 12.1% and 11.5% of total energy for men and women, respectively. Other health authorities have not been able to set minimum recommended intake levels for MUFA. For instance, the US Institute of Medicine did

not set an adequate intake level, estimated average requirement, or recommended daily allowance for oleic acid because, "there is no evidence that monounsaturated FA are essential in the diet, and monounsaturated FA have no known independent role in preventing chronic disease" (IOM/NAS, 2002). The Dietary Guidelines for Americans Technical Report (USDHHS/USDA, 2004) similarly acknowledged that MUFA are not required in the diet; however, they provide a vehicle to achieving total fat intake recommendations within the context of saturated fat and PUFA recommendations. In addition, there is an inverse relationship between intake of MUFA and total cholesterol: high density lipoprotein cholesterol (HDL-C) ratio. Further, substitution of oleic acid for saturated fat in the diet can reduce low density lipoprotein cholesterol (LDL-C). WHO (2003a) does not recommend a specific intake for oleic acid but recommends that it should make up the difference between total fat intake of 15 to 30% of total energy and its goals for saturated fat (<10%), trans fat (<1%) and PUFA (6 to 10%). Therefore, the level of oleic acid can vary, as long as the diet provides other macronutrients in appropriate amounts. Placing the changes in oleic acid from the target soybean oil component of the target foods in context of the current total dietary MUFA intake among the UK adult population, which is 12.1% en for males and 11.5% en for females (Henderson et al 2003) and that the replacement oil contributes an average 3% of the total dietary fat intake, the MUFA intake post replacement is predicted to be 13.2% en for males and 12.5% en for females. Thus, the increase in oleic acid seen in this substitution is not likely to have any nutritional concern and may in fact have positive ramifications given the concomitant decrease in saturated fats.

Consistent with the fact that linolenic acid levels in MON 87705 soybean oil are virtually the same as commodity soybean oil, there was no effect on intake at the total diet level. Linoleic acid levels are lower in MON 87705 soybean oil compared to commodity oil; accordingly, at the mean *per capita* a decrease from 1.2 g/day (2.7 g/day and 4.4 g/day at the 90^{th} and 97.5^{th} percentiles *per user*, respectively) to 0.2 g/day (0.5 g/day and 0.9 g/day at the 90^{th} and 97.5^{th} percentiles *per user*, respectively) was predicted in the target foods. COMA set a DRV for total PUFA at 6% en, but did not set DRVs for the specific classes of n-3 and n-6 PUFA. COMA also identified an individual PUFA maximum of 10% en and individual minimums of 0.2% en from linolenic acid, and 1% en from linoleic acid (BNF, 2004). WHO set recommended intakes for the reduction of diet-related chronic disease at 1-2% en for n-3 PUFA and 5-8% en for n-6 PUFA.

According to the National Diet & Nutrition Survey (Henderson et al., 2003) current intake of n-3 PUFA in the UK is approximately 1% en for both men and women, while n-6 PUFA intake is 5.4 and 5.3% en for men and women, respectively (Table 8). Following substitution with MON 87705 soybean oil, there will be no change in n-3 PUFA intake (1% en for both males and females) and a slight decrease in n-6 PUFA intake (males: 5.4% en to 5.3% en; females: 5.3% en to 5.2% en). Total PUFA intake post-substitution was estimated to be 6.3% en for males and 6.2 % en for females. These levels remain in line with intake recommendations for reduction of diet-related chronic disease.

As evaluated in this study, the shift in the intake estimates for the five FA (16:0, 18:0, 18:1, 18:2, 18:3) from foods containing the target soybean oil are the same as the percentage changes in the FA profile between the current commodity soybean oil (baseline FA profile) to MON 87705 soybean oil. This is due to the assumed total substitution of MON 87705 soybean oil, i.e.100% of the target soybean oil portion of the target foods was replaced with the new oil. Further, since every eating occasion of a target food was replaced by a comparable food containing MON 87705 soybean oil, the results of this study represent a theoretical maximum changes in the intake estimates of the five FA. Moreover, these changes in intakes of individual FA represent only the portion of FA derived from consumption of soybean oil and the FA from other foods would not be affected.

Based on the highly conservative approach taken in this assessment, the substitution of MON 87705 soybean oil for liquid soybean oil in the UK results in nutritionally positive shifts in saturated FA (particularly palmitic acid) intakes, and modest changes in other FA that do not present nutritional concerns.

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Table 3-A. BASELINE – *Per Capita* Intakes of FA from Soybean Oil Component in Target Foods, UK Adults (g/day)

Population	FA	Per Capita FA Intake (g/day)			
		Mean	90th	95th	97.5th
Adults 19-64 yrs	C16:0	0.2	0.5	0.7	0.9
	C18:0	0.1	0.2	0.2	0.3
	C18:1	0.5	1.0	1.3	1.8
	C18:2	1.2	2.6	3.3	4.3
	C18:3	0.2	0.4	0.5	0.6
	Total Fat	2.3	5.0	6.5	8.4
Males 19-64 yrs	C16:0	0.3	0.6	0.9	1.1
	C18:0	0.1	0.2	0.3	0.4
	C18:1	0.6	1.2	1.7	2.1
	C18:2	1.4	3.0	4.1	5.2
	C18:3	0.2	0.4	0.6	0.7
	Total Fat	2.7	5.8	8.0	10.2
Females 19-64 yrs	C16:0	0.2	0.4	0.6	0.7
	C18:0	0.1	0.2	0.2	0.2
	C18:1	0.4	0.9	1.1	1.3
	C18:2	0.9	2.1	2.7	3.2
	C18:3	0.1	0.3	0.4	0.5
	Total Fat	1.8	4.1	5.2	6.2

Table 3-B. BASELINE -- *Per Capita* Intakes of FA from Soybean Oil Component in Target Foods, UK Adults (% Energy)

Population	FA	Per Capita FA Intake (% Energy)			
		Mean	90th	95th	97.5th
Adults 19-64 yrs	C16:0	0.1%	0.2%	0.3%	0.4%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.2%	0.5%	0.6%	0.7%
	C18:2	0.5%	1.2%	1.5%	1.7%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.0%	2.3%	2.8%	3.4%
Males 19-64 yrs	C16:0	0.1%	0.2%	0.3%	0.4%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.2%	0.5%	0.6%	0.7%
	C18:2	0.5%	1.2%	1.5%	1.8%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.1%	2.3%	2.8%	3.4%
Females 19-64 yrs	C16:0	0.1%	0.2%	0.3%	0.4%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.2%	0.5%	0.6%	0.7%
	C18:2	0.5%	1.2%	1.5%	1.7%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.0%	2.3%	2.8%	3.4%

Table 4-A. BASELINE -- *Per User* Intakes of FA from Soybean Oil Component in Target Foods, UK Adults (g/day)

Population	FA	Per User FA Intake (g/day)			
		Mean	90th	95th	97.5th
Adults 19-64 yrs	C16:0	0.3	0.6	0.7	0.9
	C18:0	0.1	0.2	0.3	0.3
	C18:1	0.5	1.1	1.4	1.8
	C18:2	1.2	2.7	3.4	4.4
	C18:3	0.2	0.4	0.5	0.6
	Total Fat	2.4	5.2	6.6	8.6
Males 19-64 yrs	C16:0	0.3	0.6	0.9	1.1
	C18:0	0.1	0.2	0.3	0.4
	C18:1	0.6	1.2	1.7	2.1
	C18:2	1.5	3.0	4.1	5.3
	C18:3	0.2	0.4	0.6	0.8
	Total Fat	2.9	5.9	8.0	10.3
Females 19-64 yrs	C16:0	0.2	0.5	0.6	0.7
	C18:0	0.1	0.2	0.2	0.2
	C18:1	0.4	0.9	1.1	1.3
	C18:2	1.0	2.2	2.8	3.2
	C18:3	0.1	0.3	0.4	0.5
	Total Fat	2.0	4.2	5.4	6.3

Table 4-B. BASELINE -- *Per User* Intakes of FA from Soybean Oil Component in Target Foods (% Energy)

Population	FA	Per User FA Intake (% Energy)			
		Mean	90th	95th	97.5th
Adults 19-64 yrs	C16:0	0.1%	0.3%	0.3%	0.4%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.2%	0.5%	0.6%	0.7%
	C18:2	0.6%	1.2%	1.5%	1.8%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.1%	2.4%	2.9%	3.4%
Males 19-64 yrs	C16:0	0.1%	0.3%	0.3%	0.4%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.2%	0.5%	0.6%	0.7%
	C18:2	0.6%	1.2%	1.5%	1.8%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.1%	2.4%	2.9%	3.4%
Females 19-64 yrs	C16:0	0.1%	0.3%	0.3%	0.4%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.2%	0.5%	0.6%	0.7%
	C18:2	0.6%	1.2%	1.5%	1.8%
	C18:3	0.1%	0.2%	0.2%	0.3%
	Total Fat	1.1%	2.4%	2.9%	3.4%

Table 5-A. *Per Capita* Intakes of FA from MON 87705 soybean oil after Replacement of Liquid Soybean Oil in Target Foods, UK Adults (g/day)

Population	FA	Per Capita FA Intake (g/day)			
		Mean	90th	95th	97.5th
Adults 19-64 yrs	C16:0	0.1	0.1	0.2	0.2
	C18:0	0.1	0.2	0.2	0.3
	C18:1	1.7	3.8	5.0	6.4
	C18:2	0.2	0.5	0.7	0.8
	C18:3	0.2	0.3	0.4	0.6
	Total Fat	2.3	5.0	6.5	8.4
Males 19-64 yrs	C16:0	0.1	0.1	0.2	0.2
	C18:0	0.1	0.2	0.3	0.3
	C18:1	2.1	4.4	6.1	7.8
	C18:2	0.3	0.6	0.8	1.0
	C18:3	0.2	0.4	0.5	0.7
	Total Fat	2.7	5.8	8.0	10.2
Females 19-64 yrs	C16:0	0.0	0.1	0.1	0.1
	C18:0	0.1	0.1	0.2	0.2
	C18:1	1.4	3.1	4.0	4.8
	C18:2	0.2	0.4	0.5	0.6
	C18:3	0.1	0.3	0.3	0.4
	Total Fat	1.8	4.1	5.2	6.2

Table 5-B. *Per Capita* Intakes of FA from MON 87705 soybean oil after Replacement of Liquid Soybean Oil in Target Foods, UK Adults (% Energy)

Population	FA	Per Capita FA Intake (% Energy)			
		Mean	90th	95th	97.5th
Adults 19-64 yrs	C16:0	0.0%	0.1%	0.1%	0.1%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.8%	1.8%	2.2%	2.6%
	C18:2	0.1%	0.2%	0.3%	0.3%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.0%	2.3%	2.8%	3.4%
Males 19-64 yrs	C16:0	0.0%	0.1%	0.1%	0.1%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.8%	1.8%	2.2%	2.6%
	C18:2	0.1%	0.2%	0.3%	0.3%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.1%	2.3%	2.8%	3.4%
Females 19-64 yrs	C16:0	0.0%	0.1%	0.1%	0.1%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.8%	1.8%	2.2%	2.6%
	C18:2	0.1%	0.2%	0.3%	0.3%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.0%	2.3%	2.8%	3.4%

Table 6-A. *Per* User Intakes of FA from MON 87705 soybean oil after Replacement of Liquid Soybean Oil in Target Foods, UK Adults (g/day)

Population	FA	Per User FA Intake (g/day)			
		Mean	90th	95th	97.5th
Adults 19-64 yrs	C16:0	0.1	0.1	0.2	0.2
	C18:0	0.1	0.2	0.2	0.3
	C18:1	1.8	4.0	5.1	6.6
	C18:2	0.2	0.5	0.7	0.9
	C18:3	0.2	0.3	0.4	0.6
	Total Fat	2.4	5.2	6.6	8.6
Males 19-64 yrs	C16:0	0.1	0.1	0.2	0.2
	C18:0	0.1	0.2	0.3	0.3
	C18:1	2.2	4.5	6.1	7.9
	C18:2	0.3	0.6	0.8	1.0
	C18:3	0.2	0.4	0.5	0.7
	Total Fat	2.9	5.9	8.0	10.3
Females 19-64 yrs	C16:0	0.0	0.1	0.1	0.2
	C18:0	0.1	0.1	0.2	0.2
	C18:1	1.5	3.2	4.1	4.8
	C18:2	0.2	0.4	0.5	0.6
	C18:3	0.1	0.3	0.4	0.4
	Total Fat	2.0	4.2	5.4	6.3

Table 6-B. *Per User* Intakes of FA from MON 87705 soybean oil after Replacement of Liquid Soybean Oil in Target Foods, UK Adults (% Energy)

Population	FA	Per User FA Intake (% Energy)			
		Mean	90th	95th	97.5th
Adults 19-64 yrs	C16:0	0.0%	0.1%	0.1%	0.1%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.8%	1.8%	2.2%	2.6%
	C18:2	0.1%	0.2%	0.3%	0.3%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.1%	2.4%	2.9%	3.4%
Males 19-64 yrs	C16:0	0.0%	0.1%	0.1%	0.1%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.8%	1.8%	2.2%	2.6%
	C18:2	0.1%	0.2%	0.3%	0.3%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.1%	2.4%	2.9%	3.4%
Females 19-64 yrs	C16:0	0.0%	0.1%	0.1%	0.1%
	C18:0	0.0%	0.1%	0.1%	0.1%
	C18:1	0.8%	1.8%	2.2%	2.6%
	C18:2	0.1%	0.2%	0.3%	0.3%
	C18:3	0.1%	0.2%	0.2%	0.2%
	Total Fat	1.1%	2.4%	2.9%	3.4%

Table 7-A. Mean *Per Capita* FA Intake from Soybean Oil Component in Target Foods Pre- and Post- MON 87705 Soybean Oil Replacement, UK Adults

Population	FA	Per Capita Mean FA Intake					
		g/day			% Energy		
		Pre-replacement	Post-replacement	% Change	Pre-replacement	Post-replacement	% Change
Adults 19-64 yrs	C16:0	0.2	0.1	-50%	0.1%	0.0%	-100%
	C18:0	0.1	0.1	0%	0.0%	0.0%	0%
	C18:1	0.5	1.7	240%	0.2%	0.8%	300%
	C18:2	1.2	0.2	-83%	0.5%	0.1%	-80%
	C18:3	0.2	0.2	0%	0.1%	0.1%	0%
	Total Fat	2.3	2.3	0%	1.0%	1.0%	0%
Males 19-64 yrs	C16:0	0.3	0.1	-67%	0.1%	0.0%	-100%
	C18:0	0.1	0.1	0%	0.0%	0.0%	0%
	C18:1	0.6	2.1	250%	0.2%	0.8%	300%
	C18:2	1.4	0.3	-79%	0.5%	0.1%	-80%
	C18:3	0.2	0.2	0%	0.1%	0.1%	0%
	Total Fat	2.7	2.7	0%	1.1%	1.1%	0%
Females 19-64 yrs	C16:0	0.2	0.0	-100%	0.1%	0.0%	-100%
	C18:0	0.1	0.1	0%	0.0%	0.0%	0%
	C18:1	0.4	1.4	250%	0.2%	0.8%	300%
	C18:2	0.9	0.2	-78%	0.5%	0.1%	-80%
	C18:3	0.1	0.1	0%	0.1%	0.1%	0%
	Total Fat	1.8	1.8	0%	1.0%	1.0%	0%

Table 7-B. 90th Percentile *Per User* FA Intake from Soybean Oil Component in Target Foods Pre- and Post- MON 87705 Soybean Oil Replacement, UK Adults

Population	FA	Per User 90th Percentile FA Intake					
		g/day			% Energy		
		Pre-replacement	Post-replacement	% Change	Pre-replacement	Post-replacement	% Change
Adults 19-64 yrs	C16:0	0.6	0.1	-83%	0.3%	0.1%	-67%
	C18:0	0.2	0.2	0%	0.1%	0.1%	0%
	C18:1	1.1	4.0	264%	0.5%	1.8%	260%
	C18:2	2.7	0.5	-82%	1.2%	0.2%	-83%
	C18:3	0.4	0.3	-25%	0.2%	0.2%	0%
	Total Fat	5.2	5.2	0%	2.4%	2.4%	0%
Males 19-64 yrs	C16:0	0.6	0.1	-83%	0.3%	0.1%	-67%
	C18:0	0.2	0.2	0%	0.1%	0.1%	0%
	C18:1	1.2	4.5	275%	0.5%	1.8%	260%
	C18:2	3.0	0.6	-80%	1.2%	0.2%	-83%
	C18:3	0.4	0.4	0%	0.2%	0.2%	0%
	Total Fat	5.9	5.9	0%	2.4%	2.4%	0%
Females 19-64 yrs	C16:0	0.5	0.1	-80%	0.3%	0.1%	-67%
	C18:0	0.2	0.1	-50%	0.1%	0.1%	0%
	C18:1	0.9	3.2	256%	0.5%	1.8%	260%
	C18:2	2.2	0.4	-82%	1.2%	0.2%	-83%
	C18:3	0.3	0.3	0%	0.2%	0.2%	0%
	Total Fat	4.2	4.2	0%	2.4%	2.4%	0%

Table 7-C. 97.5th Percentile *Per User* FA Intake from Soybean Oil Component in Target Foods Pre- and Post- MON 87705 Soybean Oil Replacement, UK Adults

Population	FA	Per User 97.5th Percentile FA Intake					
		g/day			% Energy		
		Pre-replacement	Post-replacement	% Change	Pre-replacement	Post-replacement	% Change
Adults 19-64 yrs	C16:0	0.9	0.2	-78%	0.4%	0.1%	-75%
	C18:0	0.3	0.3	0%	0.1%	0.1%	0%
	C18:1	1.8	6.6	267%	0.7%	2.6%	271%
	C18:2	4.4	0.9	-80%	1.8%	0.3%	-83%
	C18:3	0.6	0.6	0%	0.2%	0.2%	0%
	Total Fat	8.6	8.6	0%	3.4%	3.4%	0%
Males 19-64 yrs	C16:0	1.1	0.2	-82%	0.4%	0.1%	-75%
	C18:0	0.4	0.3	-25%	0.1%	0.1%	0%
	C18:1	2.1	7.9	276%	0.7%	2.6%	271%
	C18:2	5.3	1.0	-81%	1.8%	0.3%	-83%
	C18:3	0.8	0.7	-13%	0.2%	0.2%	0%
	Total Fat	10.3	10.3	0%	3.4%	3.4%	0%
Females 19-64 yrs	C16:0	0.7	0.2	-71%	0.4%	0.1%	-75%
	C18:0	0.2	0.2	0%	0.1%	0.1%	0%
	C18:1	1.3	4.8	269%	0.7%	2.6%	271%
	C18:2	3.2	0.6	-81%	1.8%	0.3%	-83%
	C18:3	0.5	0.4	-20%	0.3%	0.2%	-33%
	Total Fat	6.3	6.3	0%	3.4%	3.4%	0%

APPENDIX A. Foods Targeted for Replacement

Target Food Category		Foodcode	FOODNAME (Adults Survey 2001-2002)
Home Use LSBO	vegetable oil portion-breads	103	BR. BREAD FRIED BLEND OIL
Home Use LSBO	vegetable oil portion-breads	104	BROWN BREAD FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-breads	122	BREAD WHITE ANY FRIED IN BLENDED VEG OIL
Home Use LSBO	vegetable oil portion-breads	123	BREAD WHITE FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-breads	134	WHO. BREAD FRIED BLENDED OIL
Home Use LSBO	vegetable oil portion-breads	135	WHO. BREAD FRIED PUFA OIL
Home Use LSBO	vegetable oil portion-breads	7608	SOFT GRAIN BREAD FRIED IN PUFA
Home Use LSBO	vegetable oil portion-breads	7613	BREAD HIGH FIBRE FRIED IN PUFA
Home Use LSBO	vegetable oil portion-breads	8363	SOFT GRAIN BREAD FRIED IN BLENDED VEG OI
Home Use LSBO	vegetable oil portion-breads	8522	HGH FIBRE WHITE BREAD FRIED IN BLENDED V
Home Use LSBO	vegetable oil portion-egg dishes	756	EGG FRIED IN BLENDED OIL
Home Use LSBO	vegetable oil portion-egg dishes	763	OMELETTE COOKED IN BLENDED OIL
Home Use LSBO	vegetable oil portion-egg dishes	766	OMELETTE COOKED IN PUFA
Home Use LSBO	vegetable oil portion-egg dishes	767	OMELETTE SWEET FRIED BLENDED
Home Use LSBO	vegetable oil portion-egg dishes	771	OMELETTE CHEESE FRIED BLENDED
Home Use LSBO	vegetable oil portion-egg dishes	775	OMELETTE HAM FRIED IN BLENDED
Home Use LSBO	vegetable oil portion-egg dishes	781	SCRAMBLED EGG PUFA& MILK
Home Use LSBO	vegetable oil portion-egg dishes	4843	EGGY BREAD FRIED IN BLENDED
Home Use LSBO	vegetable oil portion-egg dishes	6112	OMELETTE CHEESE & ONION FRIED IN BLENDED
Home Use LSBO	vegetable oil portion-egg dishes	6486	EGGY BREAD WITH SKIM MILK FRIED IN PUFA
Home Use LSBO	vegetable oil portion-egg dishes	8817	OMELETTE PORK & SWEETCORN FRIED BLENDED
Home Use LSBO	vegetable oil portion-egg dishes	9111	EGG WHITE FRIED IN VEGETABLE OIL
Home Use LSBO	vegetable oil portion-fish dishes	1405	COD HADDOCK FRY BLENDED NOCOAT
Home Use LSBO	vegetable oil portion-fish dishes	1410	COD FRIED IN PUFA NO COATING
Home Use LSBO	vegetable oil portion-fish dishes	1411	COD IN BATTER FRY BLENDED OIL
Home Use LSBO	vegetable oil portion-fish dishes	1414	COD IN BATTER FRIED PUFA OIL
Home Use LSBO	vegetable oil portion-fish dishes	1416	COD IN BREADCRUMBS FRY BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1419	COD IN BREADCRUMBS FRIED PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1453	LEMON SOLE FLOUR FRY BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1457	SOLE IN CRUMBS FRIED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1460	SOLE IN CRUMBS FRIED PUFA OIL

Home Use LSBO	vegetable oil portion-fish dishes	1464	PLAICE IN BATTER FRIED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1467	PLAICE IN BATTER FRY PUFA OIL
Home Use LSBO	vegetable oil portion-fish dishes	1469	PLAICE IN CRUMBS FRIED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1472	PLAICE IN CRUMBS FRIED PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1475	PLAICE NO BONES FLOUR BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1478	PLAICE NOBONES FLOUR FRY PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1479	WHITING WITH BONES IN FLOUR FRIED IN BLE
Home Use LSBO	vegetable oil portion-fish dishes	1482	WHITING WITH BONES IN FLOUR FRIED IN PUF
Home Use LSBO	vegetable oil portion-fish dishes	1487	HERRING NOBONES COATED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1490	HERRING NOBONE COATED FRY PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1491	HERRING COATED FLOUR FRIED BLEND VEG OIL
Home Use LSBO	vegetable oil portion-fish dishes	1494	HERRING WITH BONES COATED FRIED IN PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1507	MACKEREL NOBONE COATED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1510	MACKEREL NOBONES COATED PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1511	MACKEREL WITH BONES COATED FRIED IN BLEN
Home Use LSBO	vegetable oil portion-fish dishes	1514	MACKEREL WITH BONES FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-fish dishes	1526	SPRATS FRIED IN BLENDED OIL
Home Use LSBO	vegetable oil portion-fish dishes	1529	SPRATS FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-fish dishes	1535	WHITEBAIT COATED FRIED IN BLENDED OIL
Home Use LSBO	vegetable oil portion-fish dishes	1538	WHITEBAIT COATED FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-fish dishes	1539	DOGFISH BATTERED FRIED BLENDED OIL NO BO
Home Use LSBO	vegetable oil portion-fish dishes	1542	DOGFISH BATTERED NO BONES FRIED IN PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1547	DOGFISH BATTERED WITH BONES FRIED IN PUF
Home Use LSBO	vegetable oil portion-fish dishes	1551	SKATE WITH BONES IN BATTER FRIED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1554	SKATE WITH BONES IN BATTER FRIED IN PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1556	SKATE IN BATTER NOBONE BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1559	SKATE BATTER NOBONES FRY PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1581	SCAMPI COATED FRIED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1584	SCAMPI COATED FRIED PUFA OIL
Home Use LSBO	vegetable oil portion-fish dishes	1607	FISHCAKES FRIED BLENDED OIL
Home Use LSBO	vegetable oil portion-fish dishes	1610	FISHCAKES FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-fish dishes	1611	FISHCAKES BATTER FRY BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1614	FISHCAKES BATTER FRIED PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1616	FISH FINGERS FRY BLENDED OIL
Home Use LSBO	vegetable oil portion-fish dishes	1619	FISH FINGERS FRIED IN PUFA OIL

Home Use LSBO	vegetable oil portion-fish dishes	1623	ROE COD HARD BATTERED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1626	ROE COD HARD BATTERED FRY PUFA
Home Use LSBO	vegetable oil portion-fish dishes	1628	ROE HERRING SOFT FRY BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	1633	ROE HERRING SOFT FRIED PUFA
Home Use LSBO	vegetable oil portion-fish dishes	7801	HADDOCK NO COATING FRIED IN BLENDED VEG
Home Use LSBO	vegetable oil portion-fish dishes	7806	HADDOCK NO COATING FRIED IN PUFA
Home Use LSBO	vegetable oil portion-fish dishes	7807	HADDOCK COATED IN BATTER FRIED IN BLEND
Home Use LSBO	vegetable oil portion-fish dishes	7808	HADDOCK COATED IN BATTER FRIED IN BLENDE
Home Use LSBO	vegetable oil portion-fish dishes	7811	HADDOCK IN BATTER FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-fish dishes	7812	HADDOCK IN BREADCRUMBS FRIED IN BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	7815	HADDOCK IN BREADCRUMBS FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-fish dishes	7816	HADDOCK COATED IN FLOUR FRIED IN BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	8278	FISH PANCAKES FRIED IN BLENDED VEG OIL
Home Use LSBO	vegetable oil portion-fish dishes	8597	SQUID FRIED IN BLENDED VEGETABLE OIL
Home Use LSBO	vegetable oil portion-fish dishes	8599	COD COATED IN FLOUR FRIED BLENDED VEG OI
Home Use LSBO	vegetable oil portion-fish dishes	8837	TROUT FRIED IN POLYUNSATURATED OIL
Home Use LSBO	vegetable oil portion-fish dishes	9254	COD COATED BREADCRUMBS FROZEN FRIED BLEN
Home Use LSBO	vegetable oil portion-fish dishes	9258	HADDOCK FROZEN BREADCRUMBS FRIED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	9260	PLAICE FROZEN BREADCRUMBS FRIED BLENDED
Home Use LSBO	vegetable oil portion-fish dishes	9261	WHITING BREADCRUMBS FRIED BLEND VEG OIL
Home Use LSBO	vegetable oil portion-fish dishes	9263	WHITING - BREADCRUMBS FRIED PUFA NO BONE
Home Use LSBO	vegetable oil portion-fruit dishes	577	FRUIT FRITTER FRIED BLEN OIL
Home Use LSBO	vegetable oil portion-fruit dishes	579	FRUIT FRITTER FRIED IN PUFA
Home Use LSBO	vegetable oil portion-fruit dishes	9553	PINEAPPLE IN BATTER FRIED IN VEG OIL TAK
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1045	VEAL CUTLET E&C BLENDED OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1049	VEAL CUTLET E&C FRIED PUFA OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1070	CKICK BREAST FRIED IN BLENDED VEG OIL NO
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1071	CHICKEN FRIED IN BLENDED OIL NO SKIN WIT
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1076	CHICKEN FRIED IN PUFA NO SKIN
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1079	CHICKEN COATED WITH BONE FRIED IN BLENDE
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1084	CHICKEN IN E&C FRIED PUFA OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1112	CHICKEN BURGERS FRIED IN P/S OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1153	TURKEY BURGER FRIED BLENDED
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1156	TURKEY BURGER FRIED PUFA OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1181	LIVER CALF COATED FRY BLENDED

Home Use LSBO	vegetable oil portion-meat&poultry dishes	1186	LIVER CALF COATED FRY PUFA OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1192	LIVER LAMB COATED FRY BLENDED
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1195	LIVER LAMB COATED FRY IN PUFA
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1203	LIVER PIG COATED FRY PUFA OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1209	SWEETBREAD IN E&C FRY BLENDED
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1212	SWEETBREAD IN E&C FRY PUFA OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1284	SAUSAGE IN BATTER FRY BLENDED
Home Use LSBO	vegetable oil portion-meat&poultry dishes	1287	SAUSAGE IN BATTER FRY PUFA OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	4001	OX LIVER FRIED IN BLENDED
Home Use LSBO	vegetable oil portion-meat&poultry dishes	5169	TURKEY FRIED IN VEG OIL WITH SWEET & SOU
Home Use LSBO	vegetable oil portion-meat&poultry dishes	5265	CHICK BREAST STRIPS FRY IN PUFA
Home Use LSBO	vegetable oil portion-meat&poultry dishes	5292	TURKEY BREAST STRIPS FRIED IN PU OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	5422	PORK STIR FRIED PUFA OIL AND 5 SPICE SAU
Home Use LSBO	vegetable oil portion-meat&poultry dishes	5735	PORK ESCALOPE PORK IN E&C FRIED IN VEGET
Home Use LSBO	vegetable oil portion-meat&poultry dishes	5939	LAMB CURRY MADE WITH LAMB CHOPS PUFA OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	6018	CHICKEN WAFFLES FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	6222	BOLOGNESE S'CE: ONION TOMS MUSH & PUFA O
Home Use LSBO	vegetable oil portion-meat&poultry dishes	6816	BOL SAUCE LEAN PORK COURG TOMS & PUFA OI
Home Use LSBO	vegetable oil portion-meat&poultry dishes	8250	CHICKEN BREAST COATED FRIED IN BLENDED V
Home Use LSBO	vegetable oil portion-meat&poultry dishes	8253	CHICKEN BREAST COATED FRIED IN P/S OIL N
Home Use LSBO	vegetable oil portion-meat&poultry dishes	8254	CHICKEN FINGERS COATED FRIED IN BLENDED
Home Use LSBO	vegetable oil portion-meat&poultry dishes	8257	CHICKEN FINGERS COATED FRIED IN P/S OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	9547	LAMB SHISH KEBAB FRIED IN VEGETABLE OIL
Home Use LSBO	vegetable oil portion-meat&poultry dishes	9597	TURKEY ESCALOPE IN VEGE OIL (PUFA)
Home Use LSBO	vegetable oil portion-potato dishes	1841	POTATOES OLD ROAST IN BLENDED VEGETABLE
Home Use LSBO	vegetable oil portion-potato dishes	1844	POTATOES OLD ROAST IN POLYUNSATURATED OI
Home Use LSBO	vegetable oil portion-potato dishes	1845	POTATO NEW ROAST (IN BLENDED)
Home Use LSBO	vegetable oil portion-potato dishes	1848	POTATO NEW ROAST (IN PUFA)
Home Use LSBO	vegetable oil portion-potato dishes	1849	CHIPS OLD POTS FRIED BLENDED
Home Use LSBO	vegetable oil portion-potato dishes	1852	CHIPS OLD POTATOES FRESH FRIED IN PS OIL
Home Use LSBO	vegetable oil portion-potato dishes	1853	CHIPS OLD POTATOES FRESH FRIED IN BLENDE
Home Use LSBO	vegetable oil portion-potato dishes	1854	CHIPS NEW POTS FRIED BLENDED
Home Use LSBO	vegetable oil portion-potato dishes	1857	CHIPS NEW POTATOES FRESH FRIED IN POLYUN
Home Use LSBO	vegetable oil portion-potato dishes	1859	CHIPS FROZEN CRINKLE FRIED BL VEG OIL NO
Home Use LSBO	vegetable oil portion-potato dishes	1862	CHIPS FROZEN CRINKLE CUT FRIED IN POLYUN

Home Use LSBO	vegetable oil portion-potato dishes	1864	CHIP FROZ FINE-CUT IN BLENDED
Home Use LSBO	vegetable oil portion-potato dishes	1867	CHIPS FROZEN FINE CUT FRIED IN POLYUNSAT
Home Use LSBO	vegetable oil portion-potato dishes	1868	CHIPS FROZEN THICK FRIED BLEN VEG OIL NO
Home Use LSBO	vegetable oil portion-potato dishes	1871	CHIPS FROZEN THICK CUT FRIED IN POLYUNSA
Home Use LSBO	vegetable oil portion-potato dishes	1872	CHIPS FROZ STRAIGHT CUT BLEND
Home Use LSBO	vegetable oil portion-potato dishes	1875	CHIPS FROZEN STRAIGHT CUT FRIED IN PS OI
Home Use LSBO	vegetable oil portion-potato dishes	1879	POTATO WAFFLES FRIED BLENDED
Home Use LSBO	vegetable oil portion-potato dishes	1882	POTATO WAFFLE FRIED PUFA
Home Use LSBO	vegetable oil portion-potato dishes	1884	POTATO SLICES BATTERED FR BLEN
Home Use LSBO	vegetable oil portion-potato dishes	1887	POT SLICES BATTERED (IN PUFA)
Home Use LSBO	vegetable oil portion-potato dishes	1888	POTS OLD SAUTEED IN BLENDED
Home Use LSBO	vegetable oil portion-potato dishes	1891	POTS OLD SAUTEED IN PUFA OIL
Home Use LSBO	vegetable oil portion-potato dishes	1892	POTS NEW SAUTEED IN BLENDED
Home Use LSBO	vegetable oil portion-potato dishes	1895	POTS NEW SAUTEED IN PUFA OIL
Home Use LSBO	vegetable oil portion-potato dishes	1901	POTATO CROQUETTES FRIED IN BLENDED OIL
Home Use LSBO	vegetable oil portion-potato dishes	6398	POTATO CURRY WITH PUFA OIL
Home Use LSBO	vegetable oil portion-potato dishes	9973	CHIPS NEW POTATOES FRIED IN SOLID VEGETA
Home Use LSBO	vegetable oil portion-rice&pasta	44	BASMATI FRIED IN BLEND OIL
Home Use LSBO	vegetable oil portion-rice&pasta	47	RICE BASMATI FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-rice&pasta	50	RICE BROWN FRIED IN BLENDED OIL
Home Use LSBO	vegetable oil portion-rice&pasta	53	RICE BROWN FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-rice&pasta	59	RICE WHITE FRIED BLENDED OIL
Home Use LSBO	vegetable oil portion-rice&pasta	60	RICE WHITE WITH PUFA OIL
Home Use LSBO	vegetable oil portion-rice&pasta	6177	PASTA WITH BACON ONION AND PUFA OIL
Home Use LSBO	vegetable oil portion-sauce	9039	HAM & MUSHROOM SAUCE (PUFA OIL)
Home Use LSBO	vegetable oil portion-veggie dishes	1659	AUBERGINE FRIED IN BLENDED OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1660	AUBERGINE FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1699	BUBBLE & SQUEK FRIED IN BLENDED VEG OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1738	COURGETTES SAUTEED BLENDED OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1749	PLANTAIN FRIED IN BLENDED OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1750	PLANTAIN FRIED IN PUFA OIL CODE 1750
Home Use LSBO	vegetable oil portion-veggie dishes	1775	MUSHROOMS FRIED IN BLENDED VEGETABLE OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1776	MUSHROOMS FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1789	ONIONS FRIED BLENDED VEGETABLE OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1792	ONION FRIED IN PUFA OIL

Home Use LSBO	vegetable oil portion-veggie dishes	1793	ONION RINGS(FROZ) FRIED BLEND
Home Use LSBO	vegetable oil portion-veggie dishes	1796	ONION RING(FROZ) FRIED IN PUFA
Home Use LSBO	vegetable oil portion-veggie dishes	1804	PARSNIP ROAST IN BLENDED OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1805	PARSNIP ROAST IN PUFA OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1926	SWEETCORN FRITTERS FRIED PUFA
Home Use LSBO	vegetable oil portion-veggie dishes	1927	SWEETCORN FRITTERS FRIED BLEND
Home Use LSBO	vegetable oil portion-veggie dishes	1932	TOMATOES FRIED BLENDED OIL
Home Use LSBO	vegetable oil portion-veggie dishes	1937	TOMATO FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-veggie dishes	2624	OKRA FRIED IN BLENDED OIL
Home Use LSBO	vegetable oil portion-veggie dishes	4558	BEANSPROUTS FRIED IN PUFA
Home Use LSBO	vegetable oil portion-veggie dishes	8384	VEGETABLE FINGERS BREADCRUMBS FRIED IN B
Home Use LSBO	vegetable oil portion-veggie dishes	8386	VEGETABLE FINGERS BREADCRUMBS FRIED P/S
Home Use LSBO	vegetable oil portion-veggie dishes	8635	BREADED ONION RINGS FRIED IN BLENDED VEG
Home Use LSBO	vegetable oil portion-veggie dishes	8961	CABBAGE CARROTS & LEEKS FRIED IN VEG OIL
Home Use LSBO	vegetable oil portion-veggie dishes	9074	NUT CUTLETS FRIED IN VEGETABLE OIL
Home Use LSBO	vegetable oil portion-veggie dishes	9279	VEGIEBURGER PURCHASED FRIED IN BLENDED O
Home Use LSBO	vegetable oil portion-veggie dishes	9468	PLANTAIN FRIED IN BLENDED VEG OIL
Home Use LSBO	vegetable oil portion-veggie dishes	9469	PLANTAIN FRIED IN PUFA OIL CODE 9469
Home Use LSBO	vegetable oil portion-veggie dishes	9546	VEGETABLES FRIED IN VEGETABLE OIL
Home Use LSBO	vegetable oil portion-veggie dishes	9591	APPLE FRIED IN VEGETABLE OIL
Home Use LSBO	vegetable oil portion-veggie dishes	9664	CARROTS FRIED IN PUFA OIL
Home Use LSBO	vegetable oil portion-veggie dishes	9821	BUBBLE AND SQUEAK FRIED IN PUFA
Margarine (stick, light, spread)	margarine-spread	859	LOW FAT SPREAD (40%) NOT PUFA NOT LOW TR
Margarine (stick, light, spread)	margarine-spread	866	REDUCED FAT SPREADS (70-80%) NOT POLYUNS
Margarine (stick, light, spread)	margarine-spread	7775	REDUCED FAT SPREAD (60%) NOT PUFA NOT LO
Margarine (stick, light, spread)	margarine-spread	7776	VERY LOW FAT SPREAD (20-25%) NOT PUFA NO
Margarine (stick, light, spread)	margarine-spread	8480	REDUCED FAT SPREAD POLYUNSATURATED (70-8
Margarine (stick, light, spread)	margarine-spread	8509	REDUCED FAT SPREAD (60%) PUFA NOT LOW TR
Margarine (stick, light, spread)	margarine-spread	8510	VERY LOW FAT SPREAD (20-25%) PUFA NOT LO
Margarine (stick, light, spread)	margarine-spread	9986	VERY LOW FAT SPREAD (20-25%) NOT PUFA LO
Margarine (stick, light, spread)	margarine-spread	9988	LOW FAT SPREAD (40%) NOT PUFA LOW IN TRA
Margarine (stick, light, spread)	margarine-spread	9990	REDUCED FAT SPREAD (60%) PUFA LOW IN TRA
Margarine (stick, light, spread)	margarine-spread	9408	REDUCED FAT SPREAD 70-80% FAT MUFA
Margarine (stick, light, spread)	margarine-spread	9409	REDUCED FAT SPREAD 70-80% FAT NO HYDROG
Margarine (stick, light, spread)	margarine-spread portion	5988	APPLE SPONGE MADE WITH REDUCED FAT PUFA

Margarine (stick, light, spread)	margarine-spread portion	6030	COTTAGE PIE WITH ONION & FLORA IN MASHED
Margarine (stick, light, spread)	margarine-spread portion	6187	PLAIN OMELETTE FRIED IN REDUCED FAT SPRE
Margarine (stick, light, spread)	margarine-spread portion	6424	JAM TART WITH PUFA REDUCED FAT SPREAD
Margarine (stick, light, spread)	margarine-spread portion	6555	SCRAMB EGGS WITH REDUCED FAT SPREAD AND WHOLE MILK
Margarine (stick, light, spread)	margarine-spread portion	6577	APPLE PIE MADE WITH LOW FAT SPREAD
Margarine (stick, light, spread)	margarine-spread portion	7774	LOW FAT SPREAD (40%) PUFA NOT LOW IN TRA
Margarine (stick, light, spread)	margarine-spread portion	8054	POTATOES OLD BOILED/MASHED LF SPRD P/S 4
Margarine (stick, light, spread)	margarine-spread portion	8062	POTATOES MASHED REDUCED FAT SPRD 70-80%
Margarine (stick, light, spread)	margarine-spread portion	8516	POTATOES OLD MASHED REDUCE FAT SPRD 70-8
Margarine (stick, light, spread)	margarine-spread portion	8517	POTATOES OLD MASHED REDUCE FAT SPRD OLIV
Margarine (stick, light, spread)	margarine-spread portion	8518	POTATOES OLD MASHED REDUCE FAT SPRD P/S
Margarine (stick, light, spread)	margarine-spread portion	8519	POTATOES MASHED REDUCED FAT SPRD 60% NOT
Margarine (stick, light, spread)	margarine-spread portion	8520	POTATOES MASHED LOW FAT SPRD 40% NOT P/S
Margarine (stick, light, spread)	margarine-spread portion	8652	POTS. NEW MASHED WITH REDUCED FAT 70-80%
Margarine (stick, light, spread)	margarine-spread portion	8687	CRUMBLE RHUBARB & APPLE WITH PUFA REDUCE
Margarine (stick, light, spread)	margarine-spread portion	8720	PLUM CRUMBLE NOT W'MEAL REDUCED FAT SPRD
Margarine (stick, light, spread)	margarine-spread portion	8775	CHOC MOUSSE HOMEMADE WITH LOW FAT SPREAD
Margarine (stick, light, spread)	margarine-spread portion	8776	SCONE MADE WITH LOW FAT SPREAD NOT POLY
Margarine (stick, light, spread)	margarine-spread portion	8887	APPLE CRUMBLE HALF WHOLEMEAL REDUCED FAT
Margarine (stick, light, spread)	margarine-spread portion	8895	CHEESE & POTATO PIE LOW FAT SPREAD WHOLE
Margarine (stick, light, spread)	margarine-spread portion	8976	APPLE CRUMBLE WITH LF SPREAD
Margarine (stick, light, spread)	margarine-spread portion	8977	FLAKY PASTRY LARD & RED FAT SPRD PUFA 70
Margarine (stick, light, spread)	margarine-spread portion	8988	STEAK & KIDNEY PIE PASTRY LOW FAT SPREAD
Margarine (stick, light, spread)	margarine-spread portion	9249	POTS BOILED/MASHED OLD WITH LOW OR RED F
Margarine (stick, light, spread)	margarine-spread portion	9520	BREAD & BUTTER PUD MADE W REDCD FAT SPR
Margarine (stick, light, spread)	margarine-spread portion	9578	WHITE SCE MADE W RED FAT SPREAD (PUFA)+S
Margarine (stick, light, spread)	margarine-spread portion	9635	FRUIT CAKE MADE WITH LOW FAT SPREAD
Margarine (stick, light, spread)	margarine-spread portion	9647	STEAK PIE ONE CRUST S/C PASTRY REDUCED F
Margarine (stick, light, spread)	margarine-spread portion	9897	COCONUT AND JAM SPONGE (REDUCED FAT SPRE
Margarine (stick, light, spread)	margarine-stick	862	HARD MARGARINE UNSPECIFIED/RECIPES
Margarine (stick, light, spread)	margarine-stick	864	SOFT MARGARINE NOT PUFA NOT LOW FAT
Margarine (stick, light, spread)	margarine-stick	865	SOFT MARGARINE POLYUNSATURATED NOT LOW F
Margarine (stick, light, spread)	margarine-stick portion	308	SPONGE CHOCOLATE MARG NOT PUFA H/MADE BU
Margarine (stick, light, spread)	margarine-stick portion	356	CHEESE PASTRY COOKED(1/2 LARD 1/2 MARG)
Margarine (stick, light, spread)	margarine-stick portion	378	SPONGE NOT W/MEAL NOT CHOC WITH MARG BUT

Margarine (stick, light, spread)	margarine-stick portion	395	PASTRY SHORTCRUST RAW ALL MARGARINE NOT
Margarine (stick, light, spread)	margarine-stick portion	396	PASTRY SHORT. COOKED MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	401	PASTRY SHORTCRUST RAW CCF/MARGARINE NOT
Margarine (stick, light, spread)	margarine-stick portion	402	PASTRY SHORTCRUST COOKED CCF/MARGARINE N
Margarine (stick, light, spread)	margarine-stick portion	521	FRUIT PIE 1 CRUST PASTRY MARG
Margarine (stick, light, spread)	margarine-stick portion	524	FRUIT PIE 1 CRUST (MARG & CCF)
Margarine (stick, light, spread)	margarine-stick portion	526	FRUIT PIE 2 CRUST PASTRY MARG
Margarine (stick, light, spread)	margarine-stick portion	528	FRUIT PIE 2 CRUSTS MADE WITH MARG & LARD
Margarine (stick, light, spread)	margarine-stick portion	529	FRUIT PIE 2 CRUST (MARG & CCF)
Margarine (stick, light, spread)	margarine-stick portion	531	BLACKCURRANT PIE 1 CRUST(MARG)
Margarine (stick, light, spread)	margarine-stick portion	533	BLACKCURRANT PIE ONE CRUST HALF MARG HAL
Margarine (stick, light, spread)	margarine-stick portion	536	BL'CURR PIE 2 CRUST (MARG)
Margarine (stick, light, spread)	margarine-stick portion	538	BLACKCURRANT PIE 2 CRUSTS MARG & LARD
Margarine (stick, light, spread)	margarine-stick portion	539	BL'CURR PIE 2 CRUST (CCF&MARG)
Margarine (stick, light, spread)	margarine-stick portion	760	EGG FRIED IN MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	761	EGG FRIED IN PUFA
Margarine (stick, light, spread)	margarine-stick portion	765	OMELETTE COOKED IN MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	769	OMELETTE SWEET FRIED MARG
Margarine (stick, light, spread)	margarine-stick portion	770	OMELETTE SWEET FRIED PUFA
Margarine (stick, light, spread)	margarine-stick portion	773	OMELETTE CHEESE FRIED MARG
Margarine (stick, light, spread)	margarine-stick portion	774	OMELETTE CHEESE FRIED PUFA
Margarine (stick, light, spread)	margarine-stick portion	777	OMELETTE HAM FRIED IN MARG
Margarine (stick, light, spread)	margarine-stick portion	778	OMELETTE HAM FRIED IN PUFA
Margarine (stick, light, spread)	margarine-stick portion	780	SCRAMBLED EGG MARG & MILK
Margarine (stick, light, spread)	margarine-stick portion	1050	VEAL CUTLET E&C FRIED HARDMARG
Margarine (stick, light, spread)	margarine-stick portion	1185	LIVER CALF COATED FRY HARDMARG
Margarine (stick, light, spread)	margarine-stick portion	1365	SHEPHERDS PIE MADE WITH BUTTER/MARG IN P
Margarine (stick, light, spread)	margarine-stick portion	1409	COD FRIED IN MARG NO COATING
Margarine (stick, light, spread)	margarine-stick portion	1455	LEMON SOLE FLOUR FRY HARDMARG
Margarine (stick, light, spread)	margarine-stick portion	1456	LEMON SOLE FLOUR FRY PUFA MARG
Margarine (stick, light, spread)	margarine-stick portion	1459	SOLE BREADCRUMBS FRY HARDMARG
Margarine (stick, light, spread)	margarine-stick portion	1632	ROE HERRING SOFT FRY HARDMARG
Margarine (stick, light, spread)	margarine-stick portion	1736	COURGETTES SAUTEED MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	1737	COURGETTES SAUTEED IN PUFA
Margarine (stick, light, spread)	margarine-stick portion	1774	MUSHROOMS FRIED IN MARG

Margarine (stick, light, spread)	margarine-stick portion	1788	ONION FRIED IN MARG(NOT PUFA)
Margarine (stick, light, spread)	margarine-stick portion	1832	POTATO OLD MASHED HARD MARG
Margarine (stick, light, spread)	margarine-stick portion	1833	POTATO OLD MASHED PUFA MARG
Margarine (stick, light, spread)	margarine-stick portion	1936	TOMATO FRIED IN MARG(NOT PUFA)
Margarine (stick, light, spread)	margarine-stick portion	2644	SPONGE CAKE WITH MARG NOT CHOC HOMEMADE
Margarine (stick, light, spread)	margarine-stick portion	3203	MINCE PIES PASTRY HARD MARG
Margarine (stick, light, spread)	margarine-stick portion	5179	SPONGE MADE WITH PUFA WITH BUTTERCREAM F
Margarine (stick, light, spread)	margarine-stick portion	5377	SPONGE CAKE MARG LEMON & GLACE ICING
Margarine (stick, light, spread)	margarine-stick portion	5386	DUMPLINGS MADE WITH PUFA SPREAD
Margarine (stick, light, spread)	margarine-stick portion	5464	MACARONI CHEESE MADE WITH PUFA MARG AND
Margarine (stick, light, spread)	margarine-stick portion	5485	CORNISH PASTY HOMMADE MADE WITH ALL MARG
Margarine (stick, light, spread)	margarine-stick portion	5495	CHOCOLATE BRICK MADE WITH MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	5496	SHORTBREAD MADE WITH MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	5591	EGG FRIED IN LOW FAT SPREAD NOT PUFA
Margarine (stick, light, spread)	margarine-stick portion	5671	APPLE & SULTANA SPONGE PUDDING WITH PUFA
Margarine (stick, light, spread)	margarine-stick portion	5673	APPLE PEAR & RHUBARB CRUMBLE PUFA MARG
Margarine (stick, light, spread)	margarine-stick portion	5683	SAUSAGES ROLL S. PASTRY MADE WITH ALL MA
Margarine (stick, light, spread)	margarine-stick portion	5766	CHOC CARAMEL CAKE W/MEAL WITH PUFA AND S
Margarine (stick, light, spread)	margarine-stick portion	5788	EGGS MORNAY MADE WITH S/S MILK AND MARGA
Margarine (stick, light, spread)	margarine-stick portion	5922	ORANGE LEMON CAKE WITH DRIED FRUIT PUFA
Margarine (stick, light, spread)	margarine-stick portion	5923	APRICOT SPONGE CAKE MADE WITH PUFA MARGA
Margarine (stick, light, spread)	margarine-stick portion	5931	CHAPATIS WHITE IN MARGARINE (PUFA)
Margarine (stick, light, spread)	margarine-stick portion	5951	BEEF POT & ONION PIE HALF WHITE FLORA HA
Margarine (stick, light, spread)	margarine-stick portion	5962	APPLE AND MARMALADE CAKE MADE WITH PUFA
Margarine (stick, light, spread)	margarine-stick portion	6111	BEEF PATTIE MINCED BEEF & HALF LARD/MARG
Margarine (stick, light, spread)	margarine-stick portion	6186	BREAD PUDDING WITH WATER AND PUFA SPREAD
Margarine (stick, light, spread)	margarine-stick portion	6287	APPLE CAKE MADE WITH PUFA MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	6337	SPONGE WITH MARG PUFA SPREAD IN BUTTERCR
Margarine (stick, light, spread)	margarine-stick portion	6506	SHORTBREAD WITH SOFT MARGARINE AND CUSTA
Margarine (stick, light, spread)	margarine-stick portion	7681	MINCE PIES S/C HALF MARG/LARD
Margarine (stick, light, spread)	margarine-stick portion	7805	HADDOCK NO COATING FRIED IN HARD MARGARI
Margarine (stick, light, spread)	margarine-stick portion	8385	VEGETABLE FINGERS BREADCRUMBS FRIED MARG
Margarine (stick, light, spread)	margarine-stick portion	8606	CHOCOLATE CHIP CAKES MADE WITH PUFA MARG
Margarine (stick, light, spread)	margarine-stick portion	8607	FRUIT SCONE MADE WITH PUFA MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	8619	FLAPJACKS MADE WITH SUNFLOWER MARG AND C

Margarine (stick, light, spread)	margarine-stick portion	8638	SCRAMBLED EGG WITH SKIMMED MILK AND PUFA
Margarine (stick, light, spread)	margarine-stick portion	8647	SPONGE CAKE PUFA MARG HOMEMADE JAM & WAT
Margarine (stick, light, spread)	margarine-stick portion	8655	PASTRY COOKED MADE WITH PUFA MARG
Margarine (stick, light, spread)	margarine-stick portion	8673	QUICHE EDAM PASTRY PUFA MARGARINE NOT WH
Margarine (stick, light, spread)	margarine-stick portion	8677	PASTRY WHOLEMEAL PUFA MARGARINE COOKED
Margarine (stick, light, spread)	margarine-stick portion	8678	FRUIT SCONE HALF WHOLEMEAL PUFA MARGARIN
Margarine (stick, light, spread)	margarine-stick portion	8679	SHORTBREAD HALF WHOLEMEAL PUFA MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	8680	SPONGE CAKE PUFA MARG HOMEMADE NO FILLIN
Margarine (stick, light, spread)	margarine-stick portion	8698	CAULIFLOWER CHEESE LOW FAT CHEESE PUFA M
Margarine (stick, light, spread)	margarine-stick portion	8713	CHOCOLATE CAKE PUFA MARG HOMEMADE NO FIL
Margarine (stick, light, spread)	margarine-stick portion	8714	BUTTERCREAM ICING MADE WITH PUFA MARGARI
Margarine (stick, light, spread)	margarine-stick portion	8715	FRUIT CAKE LIGHT PUFA MARGARINE HOMEMADE
Margarine (stick, light, spread)	margarine-stick portion	8758	JAM TART INDIVIDUAL MADE WITH ALL MARG H
Margarine (stick, light, spread)	margarine-stick portion	8759	MINCE PIE 2 CRUSTS S/C PASTRY MADE ALL M
Margarine (stick, light, spread)	margarine-stick portion	8763	NEW POTATOES MASHED WITH SOFT MARG NOT P
Margarine (stick, light, spread)	margarine-stick portion	8795	SHEPHERDS PIE LEAN WITH CARROTS & PUFA M
Margarine (stick, light, spread)	margarine-stick portion	8858	LEMON SPONGE CAKE MADE WITH PUFA MARGARI
Margarine (stick, light, spread)	margarine-stick portion	8900	DUMPLINGS MADE WITH SOFT MARGARINE NOT P
Margarine (stick, light, spread)	margarine-stick portion	8902	STEAK & KIDNEY PIE 2 CRUSTS HOMEMADE MAR
Margarine (stick, light, spread)	margarine-stick portion	9034	LEEK AND MUSHROOM QUICHE LOW FAT WITH PU
Margarine (stick, light, spread)	margarine-stick portion	9035	CHELSEA BUNS WITH SSMILK PUFA MARG
Margarine (stick, light, spread)	margarine-stick portion	9036	VEG PIE (1CRUST) PUFA MARG LOW FAT CHEES
Margarine (stick, light, spread)	margarine-stick portion	9047	WHOLEMEAL FRUIT SCONE WITH PUFA MARG
Margarine (stick, light, spread)	margarine-stick portion	9069	FLAPJACKS WITH PUFA HIGH IN OATES
Margarine (stick, light, spread)	margarine-stick portion	9081	EGGY BREAD BROWN WITH CHEESE & PUFA OIL
Margarine (stick, light, spread)	margarine-stick portion	9116	CHEESE PUDDING WITH S/SKIMMED MILK & PUF
Margarine (stick, light, spread)	margarine-stick portion	9165	FISH PIE (NO POTATO SMOKED HADDOCK PUFA
Margarine (stick, light, spread)	margarine-stick portion	9177	LASAGNE (LEAN MINCE W/WHEAT PASTA PUFA)
Margarine (stick, light, spread)	margarine-stick portion	9214	UNFORTIFIED MARGARINE (MANUFACTURED PROD
Margarine (stick, light, spread)	margarine-stick portion	9216	BUTTER ICING MADE WITH MARGARINE NOT PUF
Margarine (stick, light, spread)	margarine-stick portion	9306	FRUIT CAKE HOMEMADE WITH PUFA MARGARINE
Margarine (stick, light, spread)	margarine-stick portion	9556	SPONGE CAKE M WITH PUFA AND WATER ICING
Margarine (stick, light, spread)	margarine-stick portion	9558	FRUIT PIE NOT BLACKCURRANT PUFA MARGARIN
Margarine (stick, light, spread)	margarine-stick portion	9560	POTATO PORK & PASTRY PIE MADE W PUFA MAR
Margarine (stick, light, spread)	margarine-stick portion	9586	PLAIN SCONES MADE W PUFA MARG

Margarine (stick, light, spread)	margarine-stick portion	9587	WHOLEMEAL SPONGE PUFA MARG & PUFA BUTTER
Margarine (stick, light, spread)	margarine-stick portion	9588	CHOCOLATE SPONGE MADE W PUFA NO ICING
Margarine (stick, light, spread)	margarine-stick portion	9589	APPLE CRUMBLE MADE W PUFA & MUESLI
Margarine (stick, light, spread)	margarine-stick portion	9633	FRUIT CAKE WHOLEMEAL FLOUR AND PUFA MARG
Margarine (stick, light, spread)	margarine-stick portion	9642	LEAN MINCED BEEF & VEG PIE PASTRY MADE M
Margarine (stick, light, spread)	margarine-stick portion	9643	BAKEWELL TART PASTRY MADE W ALL MARG
Margarine (stick, light, spread)	margarine-stick portion	9644	CHEESE & POTATO PIE PASTRY MADE W ALL MA
Margarine (stick, light, spread)	margarine-stick portion	9659	WHOLEMEAL SPONGE MADE PUFA NO FILLING OR
Margarine (stick, light, spread)	margarine-stick portion	9746	RASPBERRY CRUMBLE WITH PUFA AND WHOLEGRA
Margarine (stick, light, spread)	margarine-stick portion	9750	CUSTARD TART WITH PUFA PASTRY
Margarine (stick, light, spread)	margarine-stick portion	9841	FRUIT PIE (CRUST MADE WITH LARD AND PUFA
Margarine (stick, light, spread)	margarine-stick portion	9950	APPLE CRUMBLE WITH WHITE FLOUR + PUFA
Mayonnaise and Spread	Mayonnaise	2432	MAYONNAISE (RETAIL)
Mayonnaise and Spread	Mayonnaise	2433	MAYONNAISE LOW CALORIE (RETAIL)
Mayonnaise and Spread	Mayonnaise	2441	SALAD CREAM (NOT LOW CALORIE)
Mayonnaise and Spread	Mayonnaise	2442	SALAD CREAM LOW CALORIE
Mayonnaise and Spread	Mayonnaise	2443	SANDWICH SPREAD
Mayonnaise and Spread	mayonnaise potion	1907	POTATO SALAD RETAIL WITH MAYONNAISE
Salad Dressing	Creamy Salad Dressing	2422	FRENCH DRESSING CODE 2422
Salad Dressing	Creamy Salad Dressing	2501	BLUE CHEESE THOUSAND ISLAND DRESSING
Salad Dressing	Creamy Salad Dressing	7921	THOUSAND ISLAND DRESSING LOW CALORIE
Salad Dressing	Creamy Salad Dressing	9390	YOGURT DRESSINGS PURCHASED
Salad Dressing	Creamy Salad Dressing	9391	FRENCH DRESSING CODE 9391
Salad Dressing	Creamy Salad Dressing	9399	SALAD DRESSING FAT-FREE PURCHASED
Salad Dressing	Oil and Vinegar Dressing	1763	LETTUCE (OIL & VINEGAR DRESS.)
Salad Dressing	Oil and Vinegar Dressing	3456	OIL FREE SALAD DRESSING