Best Practice Guide to Calculating and Communicating Fruit and Vegetable Portions in Composite Foods
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Appendix 1 INSG Composite foods and 5 a day working group members

Appendix 2 Rationale for development of a best practice guide to calculating and communicating fruit and vegetable portions in composite foods
Despite their importance to our health, many people struggle to eat enough fruit and vegetables. Consumers recognise that they need to eat plenty of these foods; when asked what they intend to do for a healthier diet, shoppers consistently tell us they intend to eat more fruit and vegetables. The message about fruit and vegetables and health is widely recognised, however many people are still consuming too little.

Helping consumers eat 5 a day means offering them convenient and innovative products containing fruit and vegetables. We know from the results of the recent National Diet and Nutrition Survey* that composite foods make an important contribution to 5 a day intake, in addition to other forms of fruit and vegetables.

IGD’s Industry Nutrition Strategy Group (INSG) first developed guidance on calculating the fruit and vegetable content of composite foods in 2007. Although not published at the time, it was implemented by many INSG members who told us how useful they found it in their work. In particular, it helped to give consistency. Based on their feedback, we have produced this best practice guide to calculating and communicating fruit and vegetable portions in composite foods.

The guide provides a set of principles for food businesses who wish to communicate the fruit and vegetable content of their products to consumers. We hope that it will also encourage food businesses to develop products that help to increase people’s fruit and vegetable intake and contribute positively to a healthy balanced diet.

* Results from year 1 (2008/9) of the National Diet and Nutrition Survey rolling programme are used throughout this guide. The results of year 2 (2009/10) were published at the time of going to press.
The Government recommends that consumers eat at least five portions of a variety of fruit and vegetables per day. This recommendation is based on epidemiological evidence. The evidence indicates an association of consumption of at least 400g a day of fruit and vegetables with reduced risk of certain diet related chronic diseases, including coronary heart disease, stroke, diabetes, osteoporosis and some cancers. The Department of Health’s (DH) 5 A DAY communications programme aims to increase consumption of a variety of fruit and vegetables, and awareness of their health benefits.

Results from year 1 of the National Diet and Nutrition Survey (NDNS) rolling programme indicate that adults consume 4.4 portions of fruit and vegetables a day, with a range from 0.9 portions per day to 10.2 portions per day for men, and 0.3 to 8.3 portions per day for women. This includes fruit and vegetables intake from composite foods.

Guidelines from the DH for use of their 5 A DAY logo indicate that all types of fruit and vegetables, fresh, frozen, canned, dried or pure juices (fruit, vegetable or smoothie) count towards the five or more daily portions. A portion is generally taken to be 80g (or equivalent if dried or a concentrated puree) or 150ml of 100% pure fruit juice.

Many composite foods on sale within the UK already indicate the number of portions of fruit and vegetables they contain. Guidance on calculating and communicating the portions of fruit and vegetables in composite food and drink products will help to ensure consistency.

**Purpose of this guide**

**The aim of the guide is to:**

- Promote consistency in the way in which the labelled fruit and vegetables content of composite foods is calculated
- Provide criteria that composite products should meet in order for fruit and vegetable portions to be declared

Composite foods are an important source of fruit and vegetables in the diet. Labelling the number of portions in composite foods helps consumers to increase their 5 a day intake, and encourages food businesses to add more fruit and vegetables to products.

IGD’s Industry Nutrition Strategy Group convened a working group (Appendix 1) to develop a best practice guide for food businesses on calculating and communicating fruit and vegetable portions in composite foods.

The guide sets out the principles developed by the IGD working group. The rationale behind the guide is available in Appendix 2. For a more detailed description of the information considered by the working group, please see the working group report on ‘Development of a best practice guide to calculating and communicating fruit and vegetable portions in composite foods’ available to download from igd.com.

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1 IGD (2011) Development of a best practice guide to calculating and communicating fruit and vegetable portions in composite foods
2. Principles for communicating portions of fruit and vegetables in composite foods

The principles described in Box 1 have been developed for use when declaring fruit and vegetable portions in composite foods.

Box 1. Principles

Where a composite food contains fruit or vegetables, the number of portions may be communicated to consumers provided that:

1. There is at least half a portion of fruit and vegetables in a portion of the product
2. There is an appropriate variety of fruit and vegetables in a portion of the product*
3. The disqualifying criteria are not exceeded
4. Nutrition labelling is provided on the product
5. Portion sizes of the product are appropriate

*If more than one portion is declared

Box 2. Definition of composite foods and drinks

For the purposes of this guide, composite foods and drinks are defined as those foods and drinks comprised of two or more ingredients at least one of which is a food that is not a fruit or vegetable*

*Water is not included as an ingredient
3. Scope of guidance

Scope

The guidance relates to portions of fruit and vegetables in composite foods and drinks for adults and children over 11 years, and for children of 4 to 11 years.

3.1 Adult portions

A portion of fruit or vegetables for adults is 80g fresh equivalent (see Table 1). This quantity is also used for children over 11 years of age.

3.2 Children’s portions (children aged 4 to 11 years)

There is no epidemiological evidence on which to base children’s portions. The information available indicates that a size range of 50 – 60g is appropriate for children’s fruit and vegetable portions. This guidance is therefore based on 50g as a minimum amount for a portion.

In order to avoid confusion, children’s portions of fruit and vegetables should only be indicated on products that are clearly aimed at children.

3.3 Fruit and vegetables that count towards 5 a day intake

Cooked, raw, dried, freeze-dried, peeled, sliced, canned, frozen, juiced and pureed formats of fruit and vegetables count towards 5 a day intake. All 100% fruit or vegetable juices, including freshly squeezed, pasteurised, concentrated and long life, count towards 5 a day intake. However, de-ionised fruit juice does not count.

Herbs included with salad leaves count towards 5 a day.

Potatoes do not count towards portions of vegetables. In the UK potatoes are generally used in place of other sources of carbohydrate such as bread or pasta, and have a different role in the diet. Potatoes were not included in the epidemiological evidence supporting the 400g (5 portions) per day recommendation. Sweet potatoes do count towards 5 a day as they are usually eaten in addition to the starchy food part of the meal.

Other vegetables usually eaten as the carbohydrate component of a meal e.g yams, cassava and plantain, do not count as portions of vegetables.

A list of fruit and vegetables which count towards 5 a day is available here.

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2 Juice that has been filtered, de-ionised and concentrated to give a high fructose high glucose mix stripped of flavour, colour and nutrients.
4. Calculating portions for different formats of fruit and vegetables

To display a fruit and vegetable indicator on a composite food, it is recommended that the portion(s) is/are calculated based on an 80g (for adults) fresh equivalent of fruit, vegetables and pulses using the principles agreed by the Department of Health. Cooked, raw, dried, freeze-dried, peeled, sliced, canned, frozen, juiced and pureed formats of these foods also contribute.

Mixtures of fruits and/or vegetables, typically used in soups, casseroles, compotes etc, count towards portions provided that they meet the fresh equivalent quantity and any conditions stated.

Table 1 lists different formats of processed fruit and vegetables used as ingredients.

<table>
<thead>
<tr>
<th>Fruit and Vegetable Format</th>
<th>Weight or volume equivalent to 80g fresh (adult portion)</th>
<th>Weight or volume equivalent to 50g fresh (minimum children's portion)</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% fruit or vegetable juice (includes freshly squeezed, pasteurised, concentrated or long life). May be a single variety or mixture of juices.</td>
<td>150ml</td>
<td>94ml</td>
<td>A maximum of one portion of fruit or vegetable juice may be counted¹</td>
</tr>
<tr>
<td>100% concentrated fruit or vegetable puree</td>
<td>The equivalent of 80g fresh weight should be calculated according to information from the supplier, as this is based on concentration of the specific puree and will therefore vary. For example:</td>
<td>The equivalent of 50g fresh weight should be calculated according to information from the supplier, as this is based on concentration of the specific puree and will therefore vary. For example:</td>
<td>A maximum of one portion may be counted¹</td>
</tr>
<tr>
<td>- Double concentrated tomato puree, typically available from retailers: 20g²</td>
<td>- Double concentrated tomato puree, typically available from retailers: 12.5g²</td>
<td>- Double concentrated tomato puree (36-38° Brix): 11.1g</td>
<td>- Double concentrated tomato puree (36-38° Brix): 6.9g</td>
</tr>
<tr>
<td>- Triple concentrated tomato puree (36-38° Brix): 11.1g</td>
<td>- Triple concentrated tomato puree (36-38° Brix): 6.9g</td>
<td>- 100% concentrated fruit or vegetable puree (other than tomato) available from retailers (single variety or mixtures): 40g</td>
<td>- 100% concentrated fruit or vegetable puree (other than tomato) available from retailers (single variety or mixtures): 25g</td>
</tr>
<tr>
<td>Pureed non-concentrated fruit or vegetables (single variety or mixtures)</td>
<td>80g</td>
<td>50g</td>
<td>A maximum of one portion per variety can be counted</td>
</tr>
</tbody>
</table>

¹ The need for a variety of fruit and vegetables in the diet should be emphasised in products containing these fruit and vegetable formats particularly for children

4. Calculating portions for different formats of fruit and vegetables (continued)

**Table 1: Examples of fresh equivalents of fruit and vegetables (continued)**

<table>
<thead>
<tr>
<th>Fruit and Vegetable Format</th>
<th>Weight or volume equivalent to 80g fresh (adult portion)</th>
<th>Weight or volume equivalent to 50g fresh (minimum children’s portion)</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% Smoothie, prepared from crushed fruit/vegetables only or a mixture of juice and pulp (juice from a single variety or mixture of juices)</td>
<td>A smoothie might contain either: • 150ml of 100% juice AND 80g crushed fruit/veg or pulp • 160g crushed fruit/veg or pulp • 80g crushed fruit/veg or pulp AND a combination of crushed fruit/veg or pulp and juice equivalent to a portion</td>
<td>A smoothie might contain either: • 94ml of 100% juice AND 50g crushed fruit/veg or pulp • 100g crushed fruit/veg or pulp • 50g crushed fruit/veg or pulp AND a combination of crushed fruit/veg or pulp and juice equivalent to a portion</td>
<td>The above would contribute 2 portions in terms of quantity. Half of these quantities would contribute 1 portion</td>
</tr>
<tr>
<td>Cooked, reconstituted pulses</td>
<td>80g</td>
<td>50g</td>
<td>A maximum of one portion may be counted¹</td>
</tr>
<tr>
<td>Dried Fruit</td>
<td>30g</td>
<td>19g</td>
<td>A maximum of one portion may be counted¹</td>
</tr>
<tr>
<td>Freeze-dried fruit or vegetables</td>
<td>80g fresh equivalent based on supplier information</td>
<td>50g fresh equivalent based on supplier information</td>
<td>A maximum of one portion may be counted¹</td>
</tr>
</tbody>
</table>

**DEFINITIONS:**

**PULP**

For fruit other than citrus, the products obtained from the edible parts of the fruit without removing the juice. For citrus fruit, the juice sacs obtained from the endocarp.

**PURÉE**

The fermentable, but unfermented product obtained by sieving the edible part of whole or peeled fruit without removing the juice.

**CONCENTRATED PURÉE**

The product obtained from purée by the removal of a specific proportion of its water content.

¹As defined in The fruit juices and fruit nectars (England) regulation 2003 No 1564

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¹ The need for a variety of fruit and vegetables in the diet should be emphasised in products containing these fruit and vegetable formats particularly for children

5. Declaring portions of fruit and vegetables in composite foods

**Principles**

As described in Box 1, a set of principles was developed for use when declaring fruit and vegetable portions in composite foods. Where a composite food contains fruit or vegetables, the number of portions may be communicated to consumers provided that:

1. There is at least half a portion of fruit and vegetables in a portion of the product
2. There is an appropriate variety of fruit and vegetables in a portion of the product (where more than one portion is declared)
3. The disqualifying criteria are not exceeded
4. Nutrition labelling is provided on the product
5. Portion sizes of the product are appropriate

**5.1 Minimum and maximum portions to be declared**

The minimum content per serving of a product is set at half a portion of fruit and vegetables; thereafter half portions may be included i.e. 1.5, 2.5 or 3.5 etc portions.

There is no upper limit to the number of portions a product can declare, provided there is the appropriate amount and variety of fruit and/or vegetables (see Table 1 for conditions), and the portion size of the product is realistic.

**5.2 Variety of fruit and vegetables in declared portions**

Certain formats of fruit and vegetables may only contribute a maximum of one portion regardless of the quantity present in excess of the fresh weight equivalent. For example, tomato puree at a fresh weight equivalent of 20g may only count as 1 portion in a composite food even if 40g are present.

A portion may consist of a mixture of fruit and vegetable varieties, provided there is the appropriate fresh weight equivalent (see Case studies (section 6)).

Examples of fruit and vegetable portions declared in composite foods:

- To state that a stir fry ready meal provides 2 portions, it needs to contain at least 160g (or fresh equivalent) from 2 different sources/varieties of vegetables per serving.
- A pasta sauce could claim to contain 2 portions if it contained 20g of tomato puree and 80g of sliced mushrooms per serving.
- A recipe dish product containing 30g of grilled aubergine, 20g of tomato, 15g of courgettes and 15g of onions per 400g portion of product could declare a single portion of fruit and vegetables.
5. Declaring portions of fruit and vegetables in composite foods

5.3 Disqualifying criteria

Disqualifying criteria for foods and drinks are expressed as a percentage of the Guideline Daily Amounts (GDA) for saturated fat, salt and sugars per portion of the product.

In order to declare the fruit and vegetable portions in a composite product, a portion of the product should contain less than 30% of the GDA for saturated fat, less than 40% of the GDA for salt, and the residual sugars content (see Box 3) should be less than 30% of the GDA for Non-Milk Extrinsic Sugars (NMES).

The disqualifying criteria are summarised in Table 2. Corresponding GDAs are shown in Table 3.

| Table 2: Disqualifying criteria. To declare portions of fruit and vegetables, the saturated fat, salt and sugars in a portion of the composite product should be below the quantity indicated |
| Saturated fat | Salt | Sugars |
| Food | Less than 30% of the GDA | Less than 40% of the GDA | “Residual” sugars (Box 3) should be less than 30% of the GDA for non-milk extrinsic sugars (NMES) |
| Drink | Less than 15% of the GDA | Less than 20% of the GDA | “Residual” sugars (Box 3) should be less than 15% of the GDA for NMES |

| Table 3: Guideline Daily Amounts (GDAs) for saturated fat, salt and sugars |
| Saturated fat | Salt | Sugars |
| 100% | 30% | 100% | 40% | 100% | 30% |
| Adult | 20g | 6g | 6g | 2.4g | 50g | 15g |
| Child | 20g | 6g | 4g | 1.6g | 50g | 15g |

4 Government salt targets may be applied in place of the 40% GDA criteria. Signatories to the Public Health Responsibility Deal salt pledge may wish to apply the corresponding targets
5. Declaring portions of fruit and vegetables in composite foods

5.4 Nutrition labelling

Nutrition labelling must be provided on the product to allow consumers to make informed choices about the nutrition content of the food.

5.5 Product portion sizes

The portion size of the product should be appropriate for that food. See IGD’s Voluntary guidelines on communicating portion sizes to consumers.

Box 3. Residual sugars

Residual sugars are calculated as:

\[ \text{Total sugars} - (\text{dairy sugar (lactose)} + \text{sugars contained in qualifying fruit or vegetable portions}) \]

*Where the number of portions that may contribute to 5 a day is limited (see Table 1), only sugars contained in the permitted portions may be included here. Sugars contained in excess portions are regarded as residual sugars.

Examples:

- In a product containing 175ml of fruit juice, 150ml of juice would be a qualifying portion of fruit. The sugars content of the other 25ml of juice would count as residual sugars.

- In an apricot & mango cereal bar containing 16g of total sugars, 14.8g of sugars are contributed by the qualifying portion (30g) of dried fruit. The remaining 1.2g of sugars are residual sugars and are below the maximum level for this criteria.

- Fruit in light syrup contains 33g total sugars per 212.5g portion of product. Of these, 12g are from the 1.5 portions of fruit contained in a portion of the product, the remaining 21g are residual sugars and exceed the maximum level for this criteria.

- In a pasta sauce containing 40g of double concentrated tomato puree and 80g of sliced mushrooms per portion of product, two portions of fruit/vegetables may potentially be declared. These are contributed by 80g of mushrooms and 20g of the tomato puree. The sugars in the remaining 20g of puree are counted as residual sugars.

6 The Food Labelling (Nutrition Labelling) Regulation 2009
7 IGD (2009) Voluntary guidelines on communicating portion size to consumers
## 6. Case Studies

### HEINZ BAKED BEANS IN TOMATO SAUCE

**Ingredients:** Beans (51%), Tomatoes (34%), Water, Sugar, Modified Cornflour, Salt, Spirit Vinegar, Spice Extracts, Herb Extract

### In one portion of product:

<table>
<thead>
<tr>
<th></th>
<th>1.5 portions</th>
<th>1 portion of beans (102g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is at least half a portion of fruit/vegetables</td>
<td>✓</td>
<td>0.5 portions of tomatoes (68g)</td>
</tr>
<tr>
<td>There is an appropriate variety of fruit/vegetables</td>
<td>✓</td>
<td>80g of beans and 40g of tomatoes are counted</td>
</tr>
<tr>
<td>The disqualifying criteria are not exceeded</td>
<td>✓</td>
<td>Saturated fat (trace) &lt;1% GDA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Salt (1.5g) 25% GDA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Residual sugar (6.4g) 13% GDA</td>
</tr>
<tr>
<td>Nutrition labelling is provided</td>
<td>✓</td>
<td>Nutrition panel on back of pack indicates ‘per 100g’ and ‘per portion’</td>
</tr>
<tr>
<td>Portion size of the product is appropriate</td>
<td>✓</td>
<td>200g is typical portion size for this type of product</td>
</tr>
</tbody>
</table>
### 6. Case Studies

**TESCO KIDS COTTAGE PIE**

**Ingredients:** Mashed potato (50%), Beef (18%), Carrot, Tomato Puree, Water, Onion, Celery, Peas, Cornflour, Beef Stock, Wheatflour, Salt, Black Pepper.

<table>
<thead>
<tr>
<th>In one portion of product:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>There is at least half a portion of fruit/vegetables</td>
<td>1 portion</td>
</tr>
<tr>
<td></td>
<td>20.2g carrot</td>
</tr>
<tr>
<td></td>
<td>2.8g tomato puree (36-38° Brix)</td>
</tr>
<tr>
<td></td>
<td>(20.2g fresh equivalent)</td>
</tr>
<tr>
<td></td>
<td>15.8g onion</td>
</tr>
<tr>
<td></td>
<td>7.1g celery</td>
</tr>
<tr>
<td></td>
<td>4.3g peas</td>
</tr>
<tr>
<td></td>
<td>Total = 67.6g</td>
</tr>
<tr>
<td>There is an appropriate variety of fruit/vegetables</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>The product contains a mix of 5 fruit/vegetables providing 1 portion (children’s) in total</td>
</tr>
<tr>
<td>The disqualifying criteria are not exceeded</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Saturated fat (3.9g) 20% GDA</td>
</tr>
<tr>
<td></td>
<td>Salt (1.4g) 35% GDA</td>
</tr>
<tr>
<td></td>
<td>Residual sugars not calculated as total sugars (5g) is below threshold at 10% GDA</td>
</tr>
<tr>
<td>Nutrition labelling is provided</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Nutrition panel on back of pack indicates ‘per 100g’ and ‘per portion’</td>
</tr>
<tr>
<td>Portion size of the product is appropriate</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>The portion size is 280g which is appropriate for a children’s portion</td>
</tr>
</tbody>
</table>
6. Case Studies

**INNOCENT VEG POT**

**Ingredients:** Tomato, water, aubergine, chickpeas, cannellini beans, tomato puree, carrot, onion, potato, giant cous cous (4%) (durum wheat semolina, water) (contains gluten), butternut squash (3.5%), garlic, vegetable oil, coriander (0.9%), spices, raisins, harissa paste (red pepper, olive oil, red chilli, garlic, white wine vinegar, coriander, chilli powder), lemon juice, cornflour, red chilli, demerara sugar, mint, cumin seed, sea salt, chilli powder

In one portion of product:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is at least half a portion of fruit/vegetables</td>
<td>3 portions</td>
</tr>
<tr>
<td>There is an appropriate variety of fruit/vegetables</td>
<td>✓</td>
</tr>
<tr>
<td>The disqualifying criteria are not exceeded</td>
<td>✓</td>
</tr>
<tr>
<td>Nutrition labelling is provided</td>
<td>✓</td>
</tr>
<tr>
<td>Portion size of the product is appropriate</td>
<td>✓</td>
</tr>
</tbody>
</table>

There is at least half a portion of fruit/vegetables

- 68.2g tomato
- 20.8g onion
- 4.6g tomato puree (concentration factor not applied)
- 2.7g lemon juice
- 34.3g chickpeas
- 34.3g cannellini beans
- 39.8g aubergine
- 21.7g carrot
- 14.5g butternut squash
- 3g raisins

Total = 244g

The product contains a mix of 9 fruit/vegetables providing 3 portions in total

Saturated fat (0.8g) 4% GDA
Salt (0.72g) 12% GDA
Residual sugars not calculated as total sugars (11g) is below threshold at 22% GDA

Nutrition table on back of pack

The portion size is 380g which is appropriate for this product
## MAGGI RICH AND RUSTIC TOMATO SAUCE

**Ingredients:** Sun Ripened Tomatoes (48.5%), Puree of Sun Ripened Tomatoes (41.5%), Onions, Sunflower Oil, Sugar, Sea Salt, Citric Acid, Garlic, Pepper, Basil, Oregano, Firming Agent: Calcium Chloride

### In one portion of product:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is at least half a portion of fruit/vegetables</td>
<td>1 portion</td>
</tr>
<tr>
<td>48.5g Sun ripened tomatoes, 41.5g sun ripened tomato puree, 5g onions</td>
<td></td>
</tr>
<tr>
<td>There is an appropriate variety of fruit/vegetables</td>
<td>✓</td>
</tr>
<tr>
<td>There is one portion of tomatoes</td>
<td></td>
</tr>
<tr>
<td>The disqualifying criteria are not exceeded</td>
<td>✓</td>
</tr>
<tr>
<td>Saturated fat (0.4g) 2% GDA, Salt (0.58g) 10% GDA, Residual sugars not calculated as total sugars (7.2g) is below threshold at 14% GDA</td>
<td></td>
</tr>
<tr>
<td>Nutrition labelling is provided</td>
<td>✓</td>
</tr>
<tr>
<td>Nutrition labelling on back of pack indicates ‘per 100g’ (portion size is 100g)</td>
<td></td>
</tr>
<tr>
<td>Portion size of the product is appropriate</td>
<td>✓</td>
</tr>
<tr>
<td>Portion size is 100g, which is appropriate for this type of product</td>
<td></td>
</tr>
</tbody>
</table>
This guide aims to encourage inclusion of fruit and vegetables in composite foods. However, considerable challenges exist in attempting to achieve this for certain composite products. Some technical barriers are listed below which may be encountered, and which should be considered during a reformulation or NPD process.

Where technical barriers exist, it may be helpful to use half portion increments. The presence of half portions in foods is significant for consumers, especially those whose intake of fruit and vegetables is low or zero.

### 7.1 Barriers to inclusion of fruit and vegetables in composite foods

#### Processing
- Some heat processes can leach the colour out of certain vegetables
- Fruit and vegetables can block the process flow for some products when above a certain size which limits what can be added
- Above a certain threshold, addition of fruit and vegetables to some products will make them too thick to go through factory process which will limit the volume added
- Certain hygiene regulations/processes make it difficult to add uncooked vegetables or fruit at certain facilities
- In some processes it can be difficult to get an even suspension of vegetables/fruit in a liquid as there is often an excess towards the end of production. This makes it difficult to ensure that there is a portion of fruit and vegetables in each serving of product

#### Shelf-life
- Fresh vegetables and fruit deteriorate quickly in pack which either leads to a short shelf life product or the need for expensive technology such as modified atmosphere packaging

#### Moisture
- The addition of fruit and vegetables can lead to an increase of moisture content. This in turn can increase the rate of spoilage or rejects in certain products, e.g. the setting process is more difficult in quiches
- In sandwiches, adding more than a certain amount of vegetables will cause considerable wetness, e.g. > 20 leaves, 4 slices cucumber or tomato, > 50g coleslaw etc

#### Volume
- It can be physically challenging to get 80g of fruit and vegetables into a portion of certain products e.g. sandwiches and some cakes and desserts
7. Technical and production information

Cost

- Fruit and vegetables may be more expensive than other ingredients
- They are more expensive than other fillers such as water/starch
- Some prepared vegetables can be as expensive as some meats

7.2 Notes for caterers and foodservice

Where possible the guidance presented should be applied to catering and foodservice, although it is recognised that calculation and labelling of fruit and vegetables in composite foods in this environment presents a number of challenges.

In keeping with the general ethos of this guide, foodservice and catering businesses are encouraged to include fruit and vegetables in their products, or to increase the content where there is opportunity do so.

Including fruit and vegetables in recipes is an easy way for chefs and menu developers to make their dishes “healthier”, however it may be difficult to determine whether the disqualifying criteria are exceeded. A simple approach is to make sure there are at least 40g of fruit or vegetables in a portion of the dish.
Appendix 1

INSG Composite foods and 5 a day working group members
Tesco Stores LTD (Chair)
British Nutrition Foundation
Cereal Partners UK
Coca-cola Great Britain and Ireland
Food and Drink Federation
Greencore Group plc
H J Heinz Co LTD
Innocent
Marks and Spencer plc
PepsiCo International LTD
United Biscuits (UK) LTD
Wm Morrison Supermarkets plc

Industry Nutrition Strategy Group members
Allied Bakeries
Alpro UK LTD
ASDA Stores LTD
Birds Eye Iglo LTD
British Pig Executive
Brakes
British Retail Consortium
British Nutrition Foundation
Coca-Cola GB & Ireland
Compass Group plc
The Co-operative Group
Danone UK LTD
Dairy Crest Group plc
Food and Drink Federation
Greencore plc
HJ Heinz Co LTD
Innocent
Kellogg Europe
Marks & Spencer plc
Mars Chocolate UK LTD
Nestle UK LTD
National Farmers Union
PepsiCo International LTD
Premier Foods Group plc
Sainsbury’s
Tesco Stores LTD
Unilever UK LTD
United Biscuits (UK) LTD
Waitrose LTD
Wm Morrison Supermarkets plc

IGD’s Policy Issues Council (PIC) is a forum of industry leaders, broadly representative of IGD’s membership. It brings together Chairmen and Chief Executives of the UK’s leading retailers, manufacturers, wholesalers, foodservice businesses and producers to address strategic challenges for the food and grocery industry. Nutrition is a key priority for the PIC. The IGD Industry Nutrition Strategy Group was therefore established in 2003 to examine how the industry can play its part in encouraging healthy eating as part of a healthy lifestyle throughout the UK. The composite foods and 5 a day working group is a sub-group of the Industry Nutrition Strategy Group.
Contribution of composite foods to fruit and vegetable intake

Consumption of fruit and vegetables is underestimated if the content of the wide-range of composite dishes on the market is not taken into account. The 2008/2009 National Diet and Nutrition Survey included for the first time the disaggregated components from all composite dishes. For adults, this included 40-50g of vegetables, and 2-6g of fruit per day. Composite foods are therefore an important source of vegetables in the diet, and to a lesser extent fruit.

A Department for Environment, Food and Rural Affairs (DEFRA) Fruit and Vegetables Task Force was established in 2009 to consider a strategy for increasing the domestic consumption of fruit and vegetables. The Task Force reported that convenience is a barrier to intake and therefore promoting convenient, i.e composite, foods containing high levels of fruit and vegetables is one way to increase fruit and vegetables consumption. The Task Force recommended that ‘healthy’ fruit- and vegetable-containing composite foods be considered for inclusion in the DH 5 A DAY licensing scheme. A DH working group was subsequently convened to look at implementation of this recommendation.

Dietitian survey

Further evidence for the importance of composite foods in fruit and vegetable intake was obtained through an online survey of dietitians carried out by IGD (see working group report). Responses indicate the importance of composite foods, including both pre-prepared foods and those prepared at home, in helping people to achieve their intake of fruit and vegetables (Figure 1). Those surveyed encouraged their clients to consume more fruit and vegetables in a number of ways, including purchasing and consuming pre-prepared foods that contain fruit and vegetables (32%), and adding them to recipes (Figure 2). 75% of respondents thought that the number of portions of fruit and vegetables in pre-prepared composite foods should always be indicated on the label.
Appendix 2
Rationale for development of a best practice guide to calculating and communicating fruit and vegetable portions in composite foods

Communication of fruit and vegetable portions
Consumers need help to achieve their 5 a day target in a more convenient fashion than plain fruit and vegetables and juices. Communicating the fruit and/or vegetable content of composite foods to consumers may encourage the food industry to increase the content of these foods. It may also help consumers when they are preparing and cooking food at home.

Regulatory position of labelling fruit and vegetable portions in foods
Claims relating to the nutrition and health-related properties of a food or drink must comply with regulation EC 1924/2006 on nutrition and health claims made on foods The Food Standards Agency published guidance for food businesses on compliance with the regulation in 2008. This stated that in the Agency’s view, references to 5-a-day and the number of portions a product provides are not within the scope of the regulation. This point was discussed during negotiations on the regulation at European level.

The FSA guidance states that claims relating to 5-a-day should conform with the Government’s criteria and advice on what constitutes a portion. If a health claim is made in addition to the reference to 5-a-day, such as “good for you because it contains one of your five-a-day”, use of the term “good for you” would come within the scope of the regulation.

Stakeholder consultation
Stakeholder organisations were invited to a workshop to consider and comment on aspects of fruit and vegetable portions in composite foods and when these should be labelled. Workshop participants discussed:
- Quantity of fruit or vegetables in a portion for children
- Different formats of fruit and vegetables used in composite foods
- Disqualifying criteria for composite foods in terms of labelling fruit and vegetable portions

The views expressed by stakeholders were considered by the working group and incorporated into the guidance.

Figure 2. Which of the following do you encourage your clients to do in order to help them to consume more fruit and vegetables?

- Use fruit and vegetables as a snack between meals: 100%
- Add as a serving accompaniment to their lunch and/or dinner: 97%
- Add fruit and/or vegetables into the regular recipes that they already routinely prepare at home: 92%
- Have a glass of fruit juice or smoothie: 72%
- Prepare new recipes containing fruit and/or vegetables: 54%
- Purchase and consume pre-prepared foods that contain fruit and vegetables, such as soups, ready meals, fruit yoghurts etc: 32%
- Other: 5%