

# 1: Introduction to Pulses

## and the International Year of Pulses



### Primary Schoolchildren – Ages 8-11

#### Aims:

To introduce the idea of pulses (grain legumes) as edible parts of a plant.

#### Objectives:

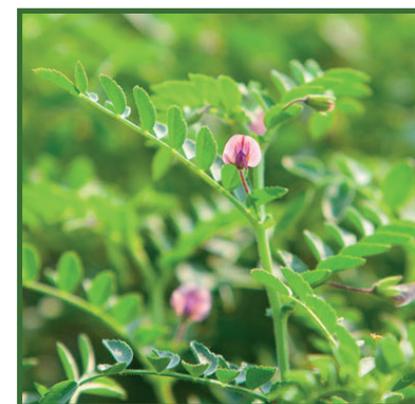
- Students will identify and recognise the different parts of plants that are edible.
- Students will collaboratively create a class display, characterising plant crops through nutritional value.
- Students will consider the importance of the UN promotion of pulses.

#### Resources:

1. (a) Diagram of the edible parts of plants (b) Plant part labels and examples for each (all from the teacher pack).
2. (a) Set A & B: Blank flash-cards, (b) Details of nutritional facts of a variety of foods derived from plants (all from the teacher pack).

#### Suggestions for further development:

The class display can be continued as an ongoing project with pupils adding more detail as the series of lessons continues. Pupils could find or make extra resources at home for any of the edible plants they have discussed in class, or any others that they may be interested in, to stick to the display.



*All pulses  
are edible  
parts of a  
plant.*



# 1: Introduction to Pulses and the International Year of Pulses



TIME DETAILS

15mins

Introduction:  
Explore the pupils' knowledge of the different parts of plants that are edible: what different parts of plants have you eaten? Explain to your pupils how the edible parts of plants are categorised and what the different categories are, with examples in each (resource 1a).  
Ask the pupils to write down a type of food (plant) they have eaten on a piece of paper, and place onto the correct plant part label (resource 1b). You can spread these labels out around the room. How many pupils have eaten the following ('pulses' or 'legumes'): kidney beans, chickpeas (the main ingredient in hummus), navy beans (often used to make 'baked beans'), butter beans, mung beans (also known as 'beansprouts' after germinating), broad beans, lima beans, lentils (often used to make 'dhal')? Compare their answers to other seeds they may have eaten. Does the comparison surprise them in any way?  
*Teacher note on pulses: the seeds of plants can be sub-divided into several categories, including 'pulses (or legumes)', 'cereals' and 'nuts'.*

Further Information

The following website can be used to find the full nutritional content of a huge number of different foods. The search box is particularly useful: <http://nutritiondata.self.com/>  
  
Grains, lentils and pulses are all widely available to buy in grocery stores, supermarkets and health food stores.

TIME DETAILS

10mins

In pairs, pupils will use resource 2 to create flash-cards for five different foods (derived from plants); extracting key information from tables in order to fill in the relevant nutritional data on the cards. *Teacher needs to distribute either set A or B vegetables to different pairs of children.*

10mins

Pairs of pupils play 'top-trumps' with their set of cards against another pair (A vs. B) - can you select a nutritional category for which you have a higher quantity than your opponents? If you can then you win their card. The pair which has collected the highest number of cards after a set time, wins.

10mins

Whole class activity: starting with their flash-cards, pupils build-up a class display, showing the different categories of edible plants.

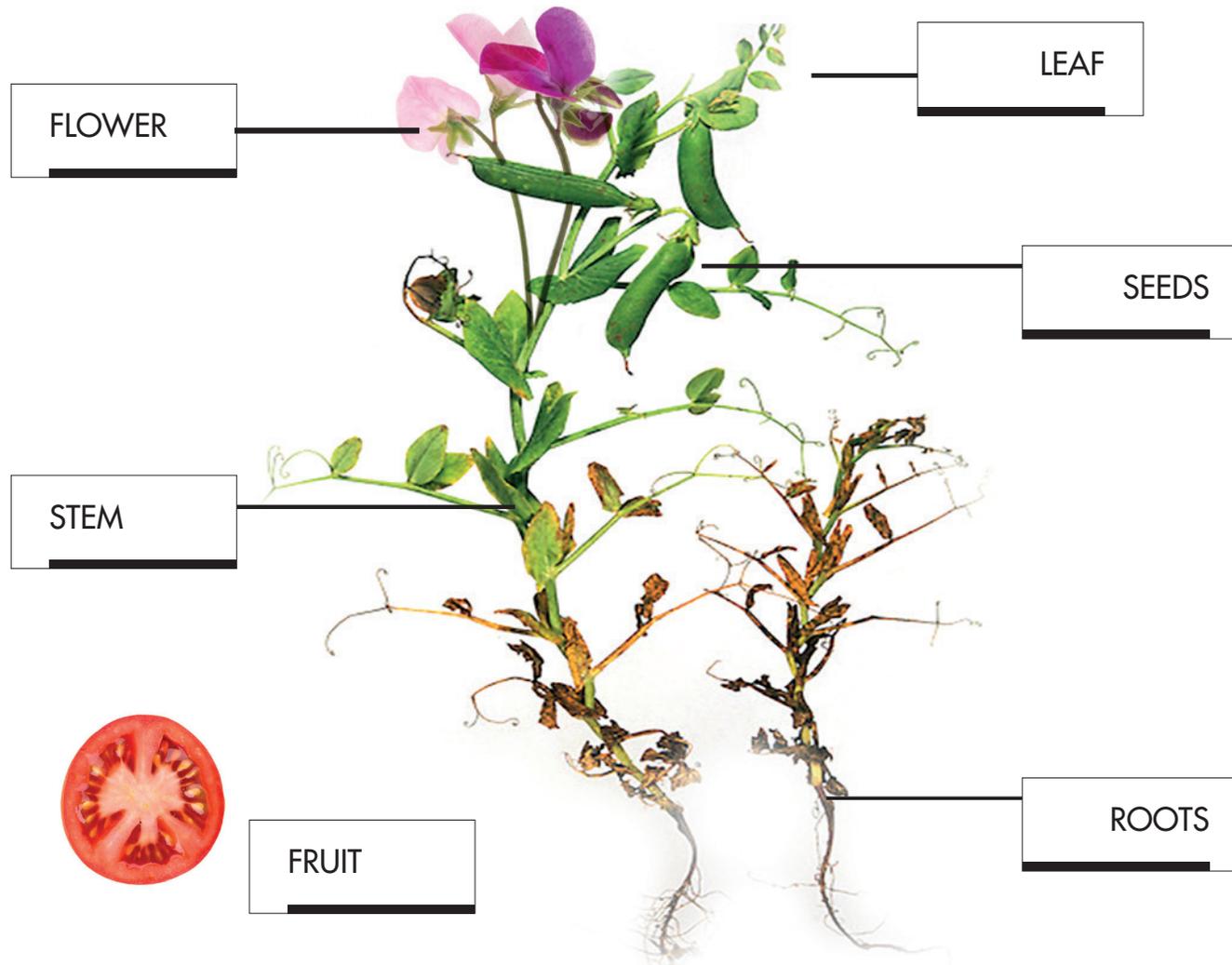
Extension: add any additional details from the resource sheets (resource 2) or from the internet. Pupils can perform further research at home and add to the display in subsequent lessons.

15mins

Which vegetables and pulses are the pupils' favourites, which do they eat the least, and which do they know least about? Reflecting on this discussion, ask pupils to select a type of vegetable to make a short promotional sketch/advert to inspire their classmates to eat more of that vegetable. What might it be important to include in the promotion? Listen to some of the pupils promotions. Explain that the UN chooses different food-types to promote globally - why might they do this, and why do you think pulses have been chosen for this year's promotion (the UN International Year of Pulses)?

# Resource 1a.

The edible parts of a plant



## Resource 1b.

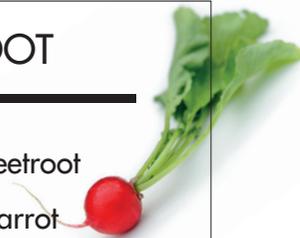
Plant part labels and examples for each



### ROOT

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- Beetroot
- Carrot
- Turnip
- Cassava
- Radish



### STEM

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- Asparagus
- Celery
- Leek
- Onion
- Potato



### LEAF

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- Cabbage
- Chicory
- Lettuce
- Kale
- Spinach



### FLOWER

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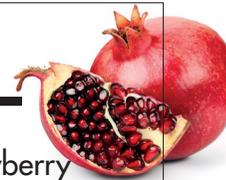
- Broccoli
- Bergamot
- Cauliflower
- Chamomile
- Dill



### FRUIT

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- Strawberry
- Tomato
- Mango
- Orange
- Pomegranate



### SEED

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- Lentil
- Broad Bean
- Pea
- Rice
- Wheat

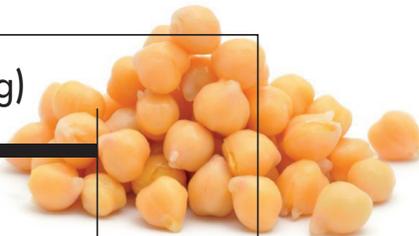


# Resource 2a.

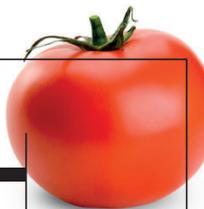
Blank Flash Cards (Pack A)



CHICKPEAS (100g)	
Calories	
Kilojoules	1523
Fat	
Carbohydrates	
Fibre	
Protein	

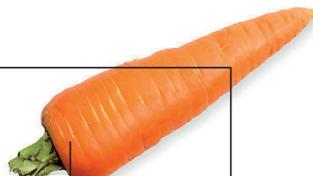


TOMATO (100g)	
Calories	
Kilojoules	75
Fat	
Carbohydrates	
Fibre	
Protein	

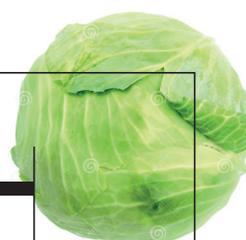


# Resource 2a.

Blank Flash Cards (Pack A)

CARROT (100g)	
Calories	
Kilojoules	172
Fat	
Carbohydrates	
Fibre	
Protein	



CABBAGE (100g)	
Calories	
Kilojoules	105
Fat	
Carbohydrates	
Fibre	
Protein	

# Resource 2a.

Blank Flash Cards (Pack A)



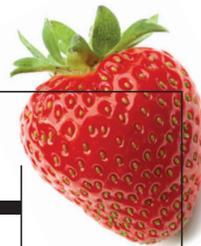
<b>ASPARAGUS (100g)</b>	
<hr/>	
Calories	
Kilojoules	84
Fat	
Carbohydrates	
Fibre	
Protein	



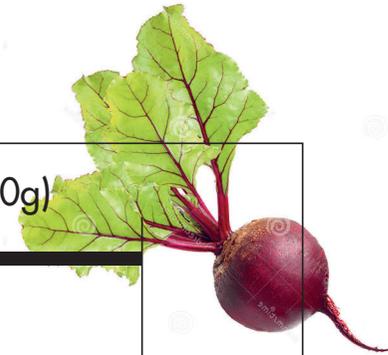
<b>LENTILS (100g)</b>	
<hr/>	
Calories	
Kilojoules	1477
Fat	
Carbohydrates	
Fibre	
Protein	

# Resource 2a.

Blank Flash Cards (Pack A)



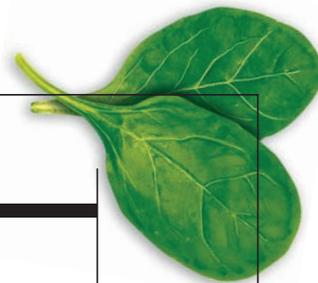
STRAWBERRY (100g)	
Calories	
Kilojoules	134
Fat	
Carbohydrates	
Fibre	
Protein	



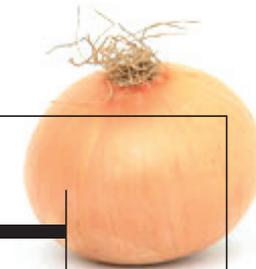
BEETROOT (100g)	
Calories	
Kilojoules	180
Fat	
Carbohydrates	
Fibre	
Protein	

# Resource 2a.

Blank Flash Cards (Pack A)



SPINACH (100g)	
Calories	
Kilojoules	96
Fat	
Carbohydrates	
Fibre	
Protein	



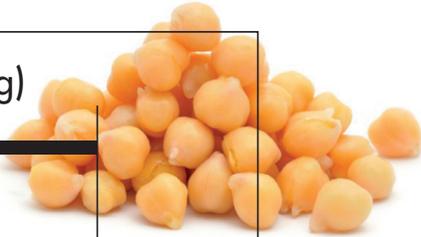
ONION (100g)	
Calories	
Kilojoules	167
Fat	
Carbohydrates	
Fibre	
Protein	

# Resource 2a.

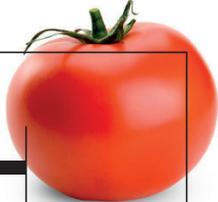
Blank Flash Cards (Pack B)



CHICKPEAS (100g)	
Calories	
Kilojoules	1523
Fat	
Carbohydrates	
Fibre	
Protein	

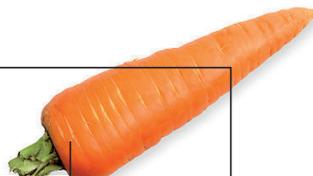


TOMATO (100g)	
Calories	
Kilojoules	75
Fat	
Carbohydrates	
Fibre	
Protein	

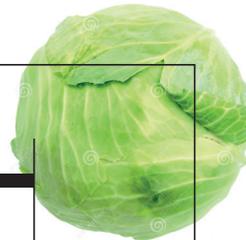


# Resource 2a.

Blank Flash Cards (Pack B)

CARROT (100g)	
Calories	
Kilojoules	172
Fat	
Carbohydrates	
Fibre	
Protein	



CABBAGE (100g)	
Calories	
Kilojoules	105
Fat	
Carbohydrates	
Fibre	
Protein	

# Resource 2a.

Blank Flash Cards (Pack B)



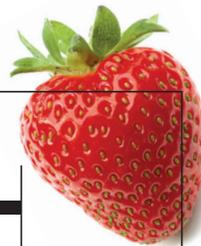
<b>ASPARAGUS (100g)</b>	
<hr/>	
Calories	
Kilojoules	84
Fat	
Carbohydrates	
Fibre	
Protein	



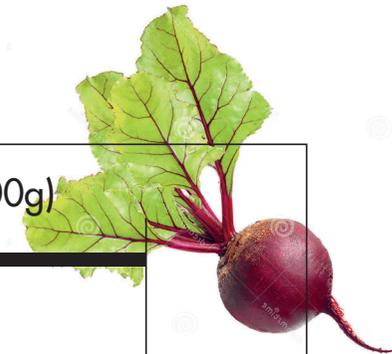
<b>LENTILS (100g)</b>	
<hr/>	
Calories	
Kilojoules	1477
Fat	
Carbohydrates	
Fibre	
Protein	

# Resource 2a.

Blank Flash Cards (Pack B)



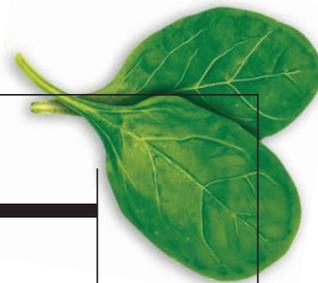
STRAWBERRY (100g)	
Calories	
Kilojoules	134
Fat	
Carbohydrates	
Fibre	
Protein	



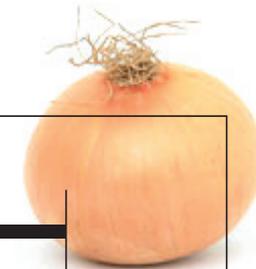
BEETROOT (100g)	
Calories	
Kilojoules	180
Fat	
Carbohydrates	
Fibre	
Protein	

# Resource 2a.

Blank Flash Cards (Pack B)



SPINACH (100g)	
Calories	
Kilojoules	96
Fat	
Carbohydrates	
Fibre	
Protein	



ONION (100g)	
Calories	
Kilojoules	167
Fat	
Carbohydrates	
Fibre	
Protein	

# Resource 2b.

## Nutritional Information



### Chickpeas

<b>Nutrition Facts</b>	
Serving Size 100 grams	
Amount Per Serving	
<b>Calories</b> 364	Calories from Fat 51
<b>% Daily Value*</b>	
<b>Total Fat</b> 6g	9%
Saturated Fat 1g	3%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 24mg	1%
<b>Total Carbohydrate</b> 61g	20%
Dietary Fiber 17g	70%
Sugars 11g	
<b>Protein</b> 19g	
Vitamin A 1%	Vitamin C 7%
Calcium 11%	Iron 35%

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

[NutritionData.com](http://NutritionData.com)

### Tomato

<b>Nutrition Facts</b>	
Serving Size 100 grams	
Amount Per Serving	
<b>Calories</b> 18	Calories from Fat 2
<b>% Daily Value*</b>	
<b>Total Fat</b> 0g	0%
Saturated Fat 0g	0%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 5mg	0%
<b>Total Carbohydrate</b> 4g	1%
Dietary Fiber 1g	5%
Sugars 3g	
<b>Protein</b> 1g	
Vitamin A 17%	Vitamin C 21%
Calcium 1%	Iron 1%

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

[NutritionData.com](http://NutritionData.com)

### Carrot

<b>Nutrition Facts</b>	
Serving Size 100 grams	
Amount Per Serving	
<b>Calories</b> 41	Calories from Fat 2
<b>% Daily Value*</b>	
<b>Total Fat</b> 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 69mg	3%
<b>Total Carbohydrate</b> 10g	3%
Dietary Fiber 3g	11%
Sugars 5g	
<b>Protein</b> 1g	
Vitamin A 334%	Vitamin C 10%
Calcium 3%	Iron 2%

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

[NutritionData.com](http://NutritionData.com)

### Cabbage

<b>Nutrition Facts</b>	
Serving Size 100 grams	
Amount Per Serving	
<b>Calories</b> 25	Calories from Fat 1
<b>% Daily Value*</b>	
<b>Total Fat</b> 0g	0%
Saturated Fat 0g	0%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 18mg	1%
<b>Total Carbohydrate</b> 6g	2%
Dietary Fiber 3g	10%
Sugars 3g	
<b>Protein</b> 1g	
Vitamin A 2%	Vitamin C 61%
Calcium 4%	Iron 3%

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

[NutritionData.com](http://NutritionData.com)

### Asparagus

<b>Nutrition Facts</b>	
Serving Size 100 grams	
Amount Per Serving	
<b>Calories</b> 20	Calories from Fat 1
<b>% Daily Value*</b>	
<b>Total Fat</b> 0g	0%
Saturated Fat 0g	0%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 2mg	0%
<b>Total Carbohydrate</b> 4g	1%
Dietary Fiber 2g	8%
Sugars 2g	
<b>Protein</b> 2g	
Vitamin A 15%	Vitamin C 9%
Calcium 2%	Iron 12%

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

[NutritionData.com](http://NutritionData.com)

# Resource 2b.

## Nutritional Information



### Lentils

<b>Nutrition Facts</b>	
Serving Size 100 grams	
<b>Amount Per Serving</b>	
<b>Calories</b> 353	Calories from Fat 10
<b>% Daily Value*</b>	
<b>Total Fat</b> 1g	2%
Saturated Fat 0g	1%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 6mg	0%
<b>Total Carbohydrate</b> 60g	20%
Dietary Fiber 30g	122%
Sugars 2g	
<b>Protein</b> 26g	
Vitamin A 1% • Vitamin C 7%	
Calcium 6% • Iron 42%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
<a href="http://NutritionData.com">NutritionData.com</a>	

### Strawberry

<b>Nutrition Facts</b>	
Serving Size 100 grams	
<b>Amount Per Serving</b>	
<b>Calories</b> 32	Calories from Fat 3
<b>% Daily Value*</b>	
<b>Total Fat</b> 0g	0%
Saturated Fat 0g	0%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 1mg	0%
<b>Total Carbohydrate</b> 8g	3%
Dietary Fiber 2g	8%
Sugars 5g	
<b>Protein</b> 1g	
Vitamin A 0% • Vitamin C 98%	
Calcium 2% • Iron 2%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
<a href="http://NutritionData.com">NutritionData.com</a>	

### Beetroot

<b>Nutrition Facts</b>	
Serving Size 100 grams	
<b>Amount Per Serving</b>	
<b>Calories</b> 43	Calories from Fat 1
<b>% Daily Value*</b>	
<b>Total Fat</b> 0g	0%
Saturated Fat 0g	0%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 78mg	3%
<b>Total Carbohydrate</b> 10g	3%
Dietary Fiber 3g	11%
Sugars 7g	
<b>Protein</b> 2g	
Vitamin A 1% • Vitamin C 8%	
Calcium 2% • Iron 4%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
<a href="http://NutritionData.com">NutritionData.com</a>	

### Spinach

<b>Nutrition Facts</b>	
Serving Size 100 grams	
<b>Amount Per Serving</b>	
<b>Calories</b> 23	Calories from Fat 3
<b>% Daily Value*</b>	
<b>Total Fat</b> 0g	1%
Saturated Fat 0g	0%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 79mg	3%
<b>Total Carbohydrate</b> 4g	1%
Dietary Fiber 2g	9%
Sugars 0g	
<b>Protein</b> 3g	
Vitamin A 188% • Vitamin C 47%	
Calcium 10% • Iron 15%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
<a href="http://NutritionData.com">NutritionData.com</a>	

### Onion

<b>Nutrition Facts</b>	
Serving Size 100 grams	
<b>Amount Per Serving</b>	
<b>Calories</b> 40	Calories from Fat 1
<b>% Daily Value*</b>	
<b>Total Fat</b> 0g	0%
Saturated Fat 0g	0%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 4mg	0%
<b>Total Carbohydrate</b> 9g	3%
Dietary Fiber 2g	7%
Sugars 4g	
<b>Protein</b> 1g	
Vitamin A 0% • Vitamin C 12%	
Calcium 2% • Iron 1%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
<a href="http://NutritionData.com">NutritionData.com</a>	