

# Introduction

The Rowett Institute of Nutrition and Health, University of Aberdeen, was founded over a hundred years ago in 1913 by the Nobel Prize winner Lord Boyd Orr. The institute played a major role in establishing the link between diet and health in the first half of the 20th Century and a significant amount of this early work led to the science of nutrition as we know it today.

Much of the current research is sponsored by the Scottish Government and focusses on the big issues of our time, including food inequalities, food security and obesity, as well as the sustainable development of Scotland's food industry.

Recently we have been studying the ways in which diets rich in oats and barley might improve the health of both our hearts and gut. Many people only associate oats with porridge and oatcakes and barley with Scotch broth. However, these grains are more versatile than you may think and we have developed new, exciting recipes to increase intake of oats and barley in the everyday diet. Due to a decline in their popularity, some of the types of oats and barley used in the recipes are now hard to find in mainstream supermarkets. At the back of the book we have provided a list of stockists. This list is not exhaustive and suppliers change regularly so it is worth trying different places or asking local shops to stock the products. You can make your own oat flour by blending either oatmeal or rolled oats in a food processor until it is a fine powder.

This recipe book highlights different ways to use oats and barley in your cooking, both in traditional recipes and in new ways. When it comes to increasing fibre in your diet, every little bit can help. Many of the recipes replace some or all of the usual starchy foods, like rice, pasta and potatoes with oats or barley. Most can be adapted to suit different tastes by adding or changing some of the ingredients.

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## Oat and Barley grains - what exactly are they?

The most widely consumed cereals are wheat, followed by barley (mostly used to produce beer and whisky) and finally oats. In Scotland we grow lots of barley and less oats and wheat. A lot of cereals can be consumed as wholegrain versions, which still contain all the healthy fibre, or as refined, white, versions where the fibre, or bran, has been removed. Both oats and barley contain an extra important fibre not present in wheat called beta-glucan which helps to lower cholesterol levels. This fibre is present in the whole grain and refined flours.

After harvest the 'woody' outer coating called the husk is removed and the oat and barley grains (or groats) are then processed in different ways to give us different products. This is a guide to the different types that are used in the recipes in this book

### **Oats**

Rolled oats (normally used to make porridge) are steamed and flattened whole oat grains. Quick cook oats are cut into smaller pieces before steaming and rolling. Oatmeal is produced by milling (or chopping) the oats into fine, medium or coarse oatmeal.



## **Barley**

The barley grains can be polished and sold as pearl barley, steel-cut into smaller pieces known as barley grits (or couscous), made into barley flakes by rolling, or ground into barley flour.



## Why increase oat and barley intake?

Along with other grains, oats and barley are a good source of many nutrients that are essential for a healthy, balanced diet. Oats and barley are considered wholegrains as they are not refined during production to remove to the outer layer of the grain. This outer layer is rich in fibre, sometimes called non-starch polysaccharides (NSP), which has health benefits such as reducing cholesterol and blood pressure. There are many different types of fibre and oats and barley are a rich source of a soluble fibre called beta-glucan. Three grams of beta-glucan per day has been found to reduce cholesterol, and this is equivalent to eating around 100g per day of oats and barley.

Oats and barley are also considered more sustainable foods than many other grains we might eat as they can be grown locally in Scotland and the rest of the UK. This helps to reduce the distance that food travels before it reaches our plate. This both makes it cheaper for us to eat and reduces the impact on the environment.

### **Health benefits**

68% of adults in Scotland are considered overweight or obese which in turn leads to increased levels of cardiovascular disease in the population.

### Increased consumption of whole grains like oats and barley can:

- Lower blood pressure and reduce the risk of heart disease
- Provide the soluble beta-glucan fibre that can help to lower cholesterol
- Reduce the risk of colorectal cancer
- Increase the intake of B-vitamins and some essential micro-nutrients
- Increase the beneficial products produced by gut bacteria when they ferment the fibre

## Sustainability

Increasingly we hear people talk about food security and sustainability of foods, but what does this mean, and why is it important?

Food security has been defined as the sustainable production of sufficient quantities of high quality, safe and affordable food needed to maintain the health and wellbeing of the population. Factors such as climate change, fuel costs and increasing population size affect our ability to produce food that can continually meet our production, health and economic needs. It is estimated that by 2050 the world's population will reach 9.1 billion (34% higher than today) and food production will need to increase by 70% to feed everyone, but also use less land, less energy and less water.

## Sustainable food production aims to be

- Environmentally responsible non-polluting with minimal fossil fuel use, low greenhouse gas emissions, protected ecosystems, preservation of natural resources, land quality is maintained or improved, and energy and water are used efficiently.
- **Economical** food is locally produced where possible and local businesses are supported. The number of miles food is transported is reduced.
- Minimising waste food waste is reduced by extending product shelf-life, functional packaging (using recycled/recyclable materials) reduces spoilage of perishable foods and reduces the amount of landfill waste.
- Fair and accessible Food producers are treated fairly and everyone has access to an affordable, safe and healthy diet.

### How to increase intakes

Increase the amount of fibre in your diet gradually, by including more fruit and vegetable products and wholegrain products, to avoid causing any upset to your gut. It is best to include a variety of fibre sources as this helps to meet other nutrient requirements as well. In the long-term, increasing our fibre intakes will have a positive effect on the health of our gut and, in turn, the rest of our body.

When we eat food our digestive systems break it down, but with fibres we can't do this ourselves. This is left to the bacteria which live in our guts and when we eat more fibre the bacteria also get more to eat, which can result in increased gas production. The extra fibre also helps to bulk out the contents of the gut making it easier for food to pass through the digestive system more comfortably, but which increases stool production. The good news is that the body will soon adapt to the new fibre intake and settle down into its new healthier routine. Different people may respond in different ways and some people may notice no changes to their gut at all. Different sources of fibre also have different effects, so how one person responds to wheat fibre may be different to their response to an increase in oat or barley fibre. Remember, all of these are normal responses that just depend what you eat already and the types of bacteria that naturally live in your gut.

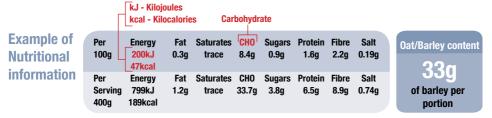
### **General Healthy Eating**

Healthy eating isn't about excluding foods we think are bad for us, it's about eating a variety of foods, from all the different food groups, in the right proportions. The eatwell plate shows the proportions of food we should get from each food group to achieve a daily (or weekly) balance.



## Try to eat:

- Plenty of fruit and vegetables aim for at least 5 portions per day
- Plenty of starchy foods potatoes and grains (especially wholegrain)
- Some milk and dairy foods
- Some meat, fish, eggs, beans and other non-dairy sources of protein aim for 2 portions of fish per week, one of which should be oily
- A small amount of foods and drinks high in fat and/or sugar as these are not essential for a healthy diet



Each table shows the contribution a portion makes towards your daily nutrient intake. Men are recommended to have 2500 kcal and women 2000 kcal daily. This should be made up of 50% carbohydrates, including 30g fibre, 35% fat (no more than 10% of saturated fats and 2% of trans fats) and 15% protein.

# **The Recipes**



# Scotch Broth (serves 3)

Scotch broth is a very traditional Scottish soup and the barley is used to thicken the soup when cooking. It is usually made with root vegetables as described here, but these can be substituted with other vegetables such as cabbage or peas. Barley doesn't just have to be added to Scotch broth of course and you could add it to a range of soups to help thicken the stock and add texture.

## **Ingredients**

100g pearl barley	
1 diced carrot	
<sup>1</sup> / <sub>4</sub> diced turnip (or swede)	
1 small diced onion	
1 stick of diced celery	
½ a sliced leek	
40g dried peas	
1 stock cube (any meat or vegetable flavour)	
2 pints of water	
Pinch of salt (if required)	
Pinch of ground black pepper	

### Method

- 1. Place all the ingredients in a large saucepan and bring to the boil.
- 2. Reduce the heat and simmer gently for 45 minutes- 1 hour or until the peas and barley are soft.
- 3. Season to taste.

# Nutrition information

Per 100g	Energy 200kJ 47kcal	Fat 0.3g	Saturates trace	CHO 8.4g	Sugars 0.9g	Protein 1.6g	Fibre 2.2g	Salt 0.19g
Per Serving 400g	Energy 799kJ 189kcal	Fat 1.2g	Saturates trace	CHO 33.7g	Sugars 3.8g	Protein 6.5g	Fibre 8.9g	Salt 0.74g

Oat/Barley content

330
of barley per
portion



## Ham & Leek casserole with dumplings (serves 2)

This is a good hearty casserole and can be adapted to suit individual tastes. The gammon and chicken stock cube can be replaced with extra vegetables and vegetable stock to make it vegetarian. The barley is a substantial component of this dish and gives it plenty of texture and volume. The dumplings in this recipe can also be adapted and the dairy products can be replaced with vegetable suet and herbs. If you have oat or barley flour available then some of the self-raising flour for the dumplings can be substituted with these.

## **Ingredients**

100g gammon joint or	160g leeks, chopped
steak, raw, chopped	500ml chicken stock
8g (2 tsp) olive oil	½ teaspoon dried thyme
120g pearl barley,	pinch of black pepper
uncooked	
150g butternut squash,	
chopped	_
1 clove of garlic	

### **Dumplings**

20g self-raising flour
20g barley or oat flour
1/4 teaspoon baking powder
15g butter
15g cheddar cheese, grated
1/4 teaspoon dried parsley
pinch of black pepper
1 tablespoon of water

### Method

- 1. Heat a large pan over a medium heat. Add the olive oil and fry the gammon for 5 minutes.
- 2. Add the leeks and garlic and fry for a few more minutes until they are softened.
- 3. Add the barley, butternut squash, thyme, pepper and chicken stock.
- 4. Simmer for 25 minutes or until the barley is nearly tender.
- 5. In a bowl mix the flour, baking powder, butter, cheese, parsley and pepper.
- 6. Add 1 tablespoon of water and mix together to form a dough, add more water if needed.
- 7. Roll the dough into small walnut size dumplings.
- 8. Add these on top of the casserole and cook for a further 10-15 minutes before serving.

# Nutrition information

Per 100g	Energy 545kJ 130kcal	Fat 4.5g	Saturates 1.8g	CHO 16.0g	Sugars 1.2g	Protein 4.8g	Fibre 3.2g	Salt 0.5g
Per Serving 425g	Energy 2315kJ 552kcal	Fat 19.1g	Saturates 7.5g	CHO 68.1g	Sugars 5g	Protein 20.2g		Salt 2.20g





# Sausage Stew (serves 2)

This sausage stew makes a lovely autumnal dish when all the vegetables are in season. Of course it is tasty at any time of year and the vegetables can be replaced with others more widely available at different times of year. The barley adds thickening and texture to the dish. Try using some flavoured sausages available from your local butcher to add extra herbs or spices.

## **Ingredients**

120g pearl barley	1 tablespoon of tomato puree
2 pork sausages	1 tablespoon heaped of wholegrain
1 onion, chopped	mustard
1 carrot, chopped	1 teaspoon of paprika
2 sticks of celery, chopped	2 cloves of crushed garlic
90g Savoy cabbage, chopped	1 bay leaf
400ml of water	Pinch of ground black pepper
400g tinned tomatoes	

### Method

- 1. Brown the sausages in a large saucepan.
- 2. Add all the remaining ingredients except the cabbage and the mustard.
- 3. Cover and simmer for 20 minutes
- 4. Add the cabbage and mustard, cover and simmer for another 20 minutes or until the barley is tender.
- 5. Remove the bay leaf before serving.

# Nutrition information

Per 100g	Energy 358kJ 85kcal	Fat 2.7g	Saturates 0.8g	CHO 11.1g	Sugars 2.4g	Protein 2.8g	Fibre 2.9g	Salt 0.32g
Per Serving 574g	Energy 2053kJ 490kcal	Fat 15.3g	Saturates 4.7g		Sugars 13.8g	Protein 16.2g	Fibre 16.6g	Salt 1.80g

Oat/Barley content

60g
of barley per
portion



# Tuna Casserole (serves 2)

This dish is an excellent way of increasing both your fish and barley consumption. We are recommended to eat two portions of fish per week, one of which should be oily. Fresh tuna is classed as an oily fish but due to the canning process tinned tuna is not. It still contains many other beneficial nutrients however and is a good source of protein and vitamins  $B_2$  and  $B_{12}$ . To avoid adding extra fat try to use tinned tuna in water or brine rather than in oil. Different types of fish can be substituted instead of tuna, such as salmon or haddock, but most types of fish will be suitable. If using raw fish rather than tinned, chop it up into small pieces first and use as per the directions for the tuna. The fish will cook in the oven.

## **Ingredients**

260g pearl barley	1 egg
1 can of tuna in brine	1 tablespoon of lemon juice
1 small tin borlotti beans	1 tablespoon of Worcestershire sauce
80g cheddar cheese	2 teaspoons mustard
160g semi-skimmed milk	1 teaspoon dried dill

### Method

- Place the barley in a large saucepan and cover with plenty of water. Bring to the boil and simmer for 45 minutes or until the barley is tender, then drain off the water.
- 2. Preheat the oven to 180°C/350°F/Gas Mark 4.
- 3. Coat a square baking pan or casserole dish lightly with oil.
- 4. In a small bowl or jug mix together the eggs, milk, lemon juice, Worcestershire sauce, mustard and dill.
- 5. In the saucepan combine the cooked barley with the tuna, beans, half the cheese, and the milk/egg mixture.
- 6. Spread the mixture into the baking pan and top with the remaining cheese
- 7. Bake for 35 minutes.

# Nutrition information

Per 100g	Energy 567kJ 135kcal	Fat 4.5g	Saturates 2.3g	CHO 13.9g	Sugars 1.1g	Protein 8.4g	Fibre 2.6g	Salt 0.36g
Per Serving 295q	Energy 1671kJ 398kcal	Fat 13.3g	Saturates 6.9g	CH0 41.1g	Sugars 3.2g	Protein 24.7g	Fibre 7.6g	Salt 1.06g

Oat/Barley content

43g
of barley per
portion



## **Chilli and Barley Couscous** (serves 2)

We usually think of chilli con carne served with rice but here the accompaniment is barley couscous. This has a slightly nuttier flavour than the more common wheat couscous and is much higher in fibre than either wheat couscous or rice. For variety, and to include extra barley, some of the kidney beans can be replaced with pearl barley but remember to increase the cooking time accordingly as barley normally takes about 50 minutes to cook through. The amount of chilli powder in the recipe can be increased or decreased according to how spicy you want the dish.

## Ingredients

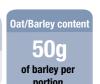
180g lean minced beef	80ml water
1 large onion, chopped	1 clove garlic
1 red pepper, chopped	Pinch of dried oregano
400g tinned tomatoes	Pinch of cumin seeds
1 small tin of kidney beans	100g of uncooked barley couscous
1 heaped tablespoon of tomato puree	200g water
2 teaspoons of chilli powder	1 tablespoon of olive oil
½ beef stock cube	

### Method

- 1. In a large pan, cook the mince until just brown.
- 2. Add in the onions, garlic, spices and stir.
- 3. Add all the remaining ingredients and simmer for 30 minutes.
- 4. Prepare the couscous as per the instructions on the packet.

# Nutrition information

Per	Energy	Fat	Saturates	CHU	Sugars	Protein	Eibro	Salt
100a	410kJ	2.7a	0.9a	11.3a	2.9a	5.7a	2.7a	0.29a
Toog	98kcal	2.79	0.59	11.09	2.09	5.7 g	2.7 y	0.239
Per	Energy	Fat	Saturates	CHO	Sugars	Protein	Fibre	Salt
Serving	2315kJ	15g	4.9g	64g	16.6g	32.2g	15.5g	1.64g
565a	551kcal							





# **Spiced Lamb and Barley Couscous** (serves 2)

This spiced lamb dish has a slightly Moroccan feel to it which is increased by the accompanying barley couscous. The couscous is nuttier in flavour than its more common wheat counterpart and is higher in fibre. The lamb could be replaced with beef and benefits from long, slow cooking to give a deliciously tender result.

## **Ingredients**

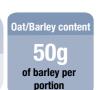
1 tablespoon of olive oil	2 cloves of garlic
250g lamb steak, diced	½ teaspoon ground cinnamon
1 large onion, chopped	1 teaspoon paprika
1 tin of chopped tomatoes	1 teaspoon chilli powder
80g green beans	½ teaspoon cumin seeds
80g butternut squash, chopped	1 teaspoon dried coriander leaves
6 dried apricots	Pinch of ground black pepper
½ a beef or lamb stock cube	100g barley couscous
150ml water	200g water
4 tablespoons of lemon juice	1 tablespoon of olive oil

### Method

- 1. Heat the oil and fry the lamb and onions for 2 minutes.
- 2. Stir in all the herbs and spices, garlic and pepper.
- 3. Add the tomatoes, butternut squash and beef stock and simmer for 25 minutes.
- 4. Add the green beans, lemon juice and apricots, then simmer for another 10 minutes.
- 5. Make up the couscous as per the instructions on the pack
- 6. Serve together.

Nutrition
information

Per 100g	Energy 362kJ 87kcal	Fat 2.7g	Saturates 0.2g	CHO 9.4g	Sugars 3.1g	Protein 5.2g	Fibre 1.8g	Salt 0.12g
Per Serving	Energy 2444kJ 582kcal	Fat 18.2g	Saturates 1.3g	CHO 63.2g	Sugars 20.6g	Protein 35.5g	Fibre 12.4g	Salt 0.81g





# Lemon Chicken "Pilaf" (serves 2)

Traditionally pilaf is a rice dish where the rice is cooked in broth and often meat or fish and spices are added. Here the rice has been replaced with barley or oat groats, both of which give the dish extra texture as well as increasing the amount of fibre in the meal.

## **Ingredients**

ns of lemon juice
emon
of dried thyme
parley or oat groats
ound black pepper
)

### Method

- 1. Heat the oil in a large saucepan over a moderate heat.
- 2. Stir in the onions, carrots, celery and garlic and cook gently for about 5 minutes.
- 3. Stir in the barley and chicken cook for 1 minute.
- 4. Pour in the chicken stock and bring to the boil.
- 5. Add the thyme, the lemon juice and rind.
- 6. Reduce the heat to very low, cover and simmer, stirring occasionally, for 30 minutes or until the barley is almost soft.
- 7. Add the peas, cover and simmer for 4-5 minutes until the all the stock has been absorbed and the barley is cooked.
- 8. Season to taste and serve.

Nutrition
information

Per 100g	Energy 413kJ 98kcal	Fat 1.7g	Saturates 0.2g	CHO 12.7g	Sugars 1.2g	Protein 6.4g	Fibre 3.2g	Salt 0.15g
Per	Energy	Fat	Saturates	CHO	Sugars	Protein	Fibre	Salt
Serving	2186kJ	8.9g	1.3g	67.2g	6.6g	34.1g	17.0g	0.81g



# **Oaty Mince Crumble** (serves 2)

The oaty crumble used for the topping in this dish could also be used as a replacement for mashed potato toppings in other dishes such as shepherd's or cottage pie. Additional oats are also used on top of the crumble to give a toasted oat topping once cooked. This technique can be included in many dishes to help add extra oats to the diet.

## **Ingredients**

160g extra lean minced	½ teaspoon of dried mixed
beef	herbs
1 small onion, chopped	65g peas
1 carrot, chopped	125g tinned tomatoes
25g oat flour	1 clove of garlic
1 tablespoon of tomato	1 tablespoon of
puree	Worcestershire sauce
½ beef stock cube	Pinch of ground black
250ml water	pepper

#### **Crumble**

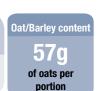
30g butter
40g low fat cheddar cheese,
grated
60g oat flour
30g rolled oats
½ teaspoon of chilli powder
Pinch of ground black
pepper

### Method

- 1. Put the mince and chopped onions into a pan and heat until the mince is brown and the onions are slightly softened.
- 2. Add the carrots, tomatoes, garlic, herbs, pepper, and the flour, and mix well.
- 3. Add the stock cube and the water and simmer for 35 minutes.
- 4. Add the peas and cook for a further 2-3 minutes before leaving to cool.
- 5. Heat the oven to 200°C/400°F/Gas Mark 6.
- 6. Make the crumble topping by rubbing together the butter, flour, and half of the rolled oats. Then add the pepper, chilli powder and cheese and mix.
- 7. Pour the mince mixture into a small oven proof dish and top with the crumble topping. Sprinkle the crumble with the rest of the oats.
- 8. Bake for 30-40 minutes.

# Nutrition information

Per 100g	Energy 691kJ 165kcal	Fat 7.3g	Saturates 3.6g	CHO 14.3g	Sugars 2.8g	Protein 9.2g	Fibre 2.3g	Salt 0.43g
Per Serving 565g	Energy 2279kJ 544kcal	Fat 24.2g	Saturates 11.8g	CHO 47.3g	Sugars 9.4g	Protein 30.5g	Fibre 7.5g	Salt 1.43g





# **Beef Olives** (serves 2)

Beef olives have been around in Britain since the 16th century and there are many variations. In general the term refers to the beef being wrapped up around the stuffing, then browning it and finishing it in a sauce. The recipe here uses a simple oatmeal stuffing with a vegetable-based sauce. Wrapping and tying the 'olives' can be fiddly and may take a bit of practice but these tasty parcels are worth the effort.

Sauce

Pinch of ground black pepper

mgrodionto	oaucc
180g (2) thin beef steaks	1 carrot
70g oatmeal	1 onion
1/4 of small onion	1/4 of a large leek
25g butter	200g potatoes
Pinch of salt	600g of water
Pinch of ground black pepper	1 beef stock cube
	1 teaspoon of olive oil

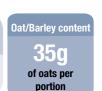
### Method

Ingredients

- 1. Gently melt the butter in a pan, finely chop the onion and soften in the pan with the butter.
- 2. Stir in the oatmeal and cook for 10 minutes, then leave to cool slightly.
- 3. Pour the stuffing mixture onto a large piece of clingfilm and roll into a cylinder shape using the clingfilm, twisting the film at both ends to secure the mixture. Put into the fridge to chill.
- 4. Take the beef steaks and cover with a sheet of clingfilm, then using a rolling pin (or other heavy object) repeatedly hit the steak to create a thinner, wider piece of meat.
- 5. Take the oatmeal mixture from the fridge and unwrap from the clingfilm. Split the mixture in two and wrap each piece with one of the steaks, cutting it to size where necessary. Secure the meat 'parcels' with string.
- 6. Chop the carrots, onions, leek and potatoes.
- 7. Put the olive oil in a large pan and brown the meat 'parcels'.
- 8. Add the chopped vegetables, stock and pepper, and bring to the boil.
- 9. Simmer for 1 hour.

Nutrition
information

Per 100g	Energy 440kJ 105kcal	Fat 4.4g	Saturates 1.9g	CHO 9.7g	Sugars 0.9g	Protein 5.8g	Fibre 1.9g	Salt 0.31g
Per Serving	Energy 2135kJ 510kcal	Fat 21.2g	Saturates 9.1g	CHO 46.9g	Sugars 9.1g	Protein 28.2g	Fibre 9.2g	Salt 1.49g





# **Barley Risotto** (serves 2)

Risotto is an Italian rice dish where the rice is cooked in stock until creamy. The rice, however, can be replaced with various grains for a similar style dish. In this case pearl barley is used instead. The cooking time is slightly longer than for a rice risotto but the barley can give a similar creamy consistency. The recipe below is suitable for vegetarians if the Gran Moravia cheese is used, but like other risotto recipes there are many variations as to what can be added such as chicken, prawns, asparagus, peas etc.

## **Ingredients**

140g pearl barley	10g of butter
350g butternut squash, peeled and diced	15g of mascarpone
into chunks	25g Gran Moravia cheese, grated, or other
1 onion, finely chopped	hard cheese
2 garlic cloves, crushed	Handful of chopped parsley
60ml white wine	Ground black pepper to taste
1 vegetable stock cube with 700ml of water	

### Method

- 1. Heat the butter in a large shallow saucepan.
- 2. Add the onion and squash and cook gently, stirring occasionally, until the onion is soft and the squash starts to soften, about 10 minutes.
- 3. Stir in the garlic and cook for 1 minute.
- 4. Add the white wine and boil until about 3/4 of the liquid has gone.
- 5. Add the barley, stir, and then add the stock.
- 6. Gently simmer for about 45-55 minutes, stirring occasionally, until all the stock has been absorbed and the barley is tender.
- 7. Turn off the heat and stir through the mascarpone, half the Gran Moravia and all the parsley.
- 8. Season with pepper.

565a

502kcal

9. Serve in bowls, sprinkled with the remaining Gran Moravia.

Nutrition information	Per 100g	Energy 392kJ 93kcal	Fat 2.4g	Saturates 1.3g	CHO 13.1g		Protein 2.6g	Fibre 2.6g	Salt 0.30g
	Per Serving	Energy 2108kJ	Fat 13.1g	Saturates 7.1g		Sugars 10.7g	Protein 14.0g		Salt 1.6g

Oat/Barley content

70g
of barley per
portion



# Pinhead Oat Risotto (serves 2)

Like the barley risotto, oats can also be a good alternative to rice in this dish. This recipe was developed by Chris Young of the Handmade Oatcake Company and won him the title of Best Speciality Porridge at the 21st Golden Spurtle awards in 2014. This is a delicious oatmeal risotto which can be made vegetarian by substituting the parmesan cheese for Gran Moravia or another suitable alternative.

## **Ingredients**

120g Pinhead oatmeal	1 vegetable stock cube made with 250ml
1 tablespoon of olive oil	water
1 small diced onion	25g butter
60g of garden peas	Pinch fresh thyme, chopped
200g assorted mushrooms, roughly	(plus extra to serve)
chopped	Generous bunch chopped parsley (plus
1 small clove garlic, crushed	extra to serve)
Juice from ½ a small lemon	Small bundle of Thyme sprigs tied
25g double cream	together
25g soured cream	25g parmesan

### Method

- 1. Add the olive oil to a hot thick bottomed pan. Add the onion, pinhead oats, garlic and the chopped thyme and cook for around 2 minutes.
- 2. Add half of the chopped mushrooms, stir and cook for about 30 seconds. Add the thyme sprig bundle.
- 3. Add the stock and continue to stir gently for 5 minutes. Add the peas and continue to stir for another 5 minutes. The risotto will be thickening all the time whilst cooking and the desired consistency is similar to lightly whipped cream, not runny, but thick enough to hold on a plate.
- 4. Add the rest of the mushrooms and parsley and stir through. Remove the thyme sprig bundle.
- 5. Fold through the double cream, half of the parmesan and butter.
- 6. Serve garnished with a little thyme, parsley, parmesan slithers and a small dollop of soured cream. Drizzle with a squeeze of fresh lemon juice.

Nutrition	
information	

Per 100g	Energy 673kJ 161kcal	Fat 9.3g	Saturates 4.3g	CHO 13.1g	Sugars 1.0g	Protein 4.9g	Fibre 2.7g	Salt 0.52g
Per	Energy	Fat	Saturates	CH0	Sugars	Protein	Fibre	Salt
Serving	2253kJ	31.1g	14.5g	44.0g	3.3g	16.5g	9.1g	1.74g





# Staffordshire Oatcakes (makes 9)

Staffordshire oatcakes, as the name suggests, come from the North Staffordshire area where they are known locally simply as oatcakes. Unlike the Scottish oatcake these are a type of savoury pancake and use oatmeal, flour and yeast as the base ingredients. Cheese is a very common filling for these oatcakes and they are usually served warm, but they are incredibly versatile and can be used for many savoury and sweet fillings, much as a normal crepe-style pancake, or a tortilla wrap would be used.

## Ingredients

120g fine oatmeal	500ml equally mixed milk and water -
70g oat flour	warmed
50g plain flour	50ml warm water or milk for final mixing
½ teaspoon of salt	1 teaspoon sugar
7g of dried yeast	1 teaspoon olive oil

### Method

- Mix milk/water, yeast and sugar and set aside in a warm place for a few minutes to froth.
- 2. Add oatmeal, flour, and salt to a bowl and mix.
- 3. Add milk mixture and oil and whisk.
- 4. Leave to rise in warm place for an hour.
- 5. Lightly whisk adding the 50 ml more warm water/milk.
- 6. Cook as for pancakes ladle mix into pan wiped with cooking oil and fry on high heat until top "dries", flip over and cook the other side.
- 7. Once cooked, cool on a cake rack.
- 8. These oatcakes are much nicer used after they have cooled, ideally in the fridge for a few hours (overnight is best).
- 9. Can then be eaten warm or cold. Simply add the filling of your choice and roll them up.

Nutrition
information

Per 100g	Energy 772kJ 183kcal	Fat 4.3g	Saturates 0.8g	CHO 28.2g	Sugars 3.2g	Protein 6.3g	Fibre 3.0g	Salt 0.70g
Per	Energy	Fat	Saturates	CHO	Sugars	Protein	Fibre	Salt
Serving	525kJ	3g	0.5g	19.2g	2.1g	4.3g	2.1g	0.47g

Oat/Barley content

20g
of oats per



## **Apple and Bramble Crumble (serves 6)**

This pudding is a fantastic option for an autumnal dessert when apples and brambles (blackberries) are in season and widely available. The crumble uses oats and oat flour in the topping instead of wheat flour and this gives it a lovely crunchy texture. The crumble topping is of course suitable for any fruit crumble, and choosing seasonal fruits will help keep the cost down.

## **Ingredients**

4 cooking apples chopped	
100ml water	
1 tin of (drained) or fresh pack of brambles	
90g butter or vegetable oil spread	
130g oat flour	
90g rolled oats	
1 tsp of brown sugar	

### Method

- 1. Peel and roughly chop cooking apples into chunks, place in oven proof dish and mix with brambles and water.
- 2. Heat oven to 200°C/400°F/Gas Mark 6.
- 3. For the crumble rub all ingredients together, except the sugar to make a breadcrumb mix
- 4. Cover the fruit with the crumble mix and sprinkle the sugar on top.
- 5. Bake for 45 minutes.

Nutrition
information

Per 100g	Energy 694kJ 166kcal	Fat 8.2g	Saturates 4.5g	CHO 19.1g	Sugars 5.8g	Protein 2.4g	Fibre 2.8g	Salt 0.13g
Per Serving 182a	Energy 1264kJ 302kcal	Fat 15.0g	Saturates 8.1g	CH0 38.4g	Sugars 10.6g	Protein 4.5g	Fibre 5.2g	Salt 0.23g

Oat/Barley content

36g
of oats per



# **Baked Barley Pudding** (serves 6)

This pudding is sure to delight those who are fond of traditional milk-based puddings, such as rice pudding and semolina. It is an excellent way of using barley in a dessert and increasing the amount of fibre in the diet.

## **Ingredients**

675ml water	50g brown sugar
150g pearl barley	15g butter or vegetable oil spread, melted
½ teaspoon of salt	1 teaspoon of vanilla essence or extract
2 eggs	75g raisins
325g semi-skimmed milk	Rind and juice of half a lemon

### Method

- 1. In a saucepan bring the water to the boil and add the barley and salt.
- 2. Simmer barley for 40 minutes or until tender, then allow to cool.
- 3. In a bowl combine eggs, milk, sugar, butter and vanilla, and beat well.
- 4. Add cooked barley, raisins, lemon rind and juice.
- 5. Pour into a greased baking dish.
- 6. Make a bain-marie by placing the baking dish containing the pudding into a larger baking pan. Pour hot water into the larger pan to half way up the outside of the baking dish.
- 7. Bake at 160°C/325°F/Gas Mark 3 for 1 hour.
- 8. Serve hot or cold.

# Nutrition information

Per 100g	Energy 583kJ 138kcal	Fat 3.3g	Saturates 1.5g		Sugars 11.7g	Protein 3.9g	Fibre 2.0g	Salt 0.33g
Per Serving 160g	Energy 933kJ 222kcal	Fat 5.3g	Saturates 2.4g	CHO 35.7g	Sugars 18.7g	Protein 6.2g	Fibre 3.2g	Salt 0.52g

Oat/Barley content

25g
of barley per

portion



# **Oat or Barley Bread**

The most variable results between using different flours in baking can be seen when making bread. We most often use wheat flour because it is high in gluten which is necessary to make the dough stretchy and gives the bread its light texture. However flours made from oats and barley can also be used in addition to strong white flour (high gluten) to still give a nice light bread but with a little bit of extra flavour and fibre. Using all oat or barley flour is possible but they are better suited to heavier flat bread and soda bread recipes that have a more dense texture.

### Ingredients

250g strong white flour
250g oat / barley flour
14g dried yeast
1 teaspoon of salt
2 teaspoons of olive oil
25g honey
300ml water (warm)

#### Method

- 1. Mix together the flours, salt and yeast in a large bowl.
- 2. Take half of the water and mix with the honey and oil.
- 3. Add this to the flour mixture and mix.
- 4. Add the rest of the water until a soft dough is formed.
- 5. Turn the dough out onto a lightly floured surface and knead for 5 minutes until smooth and more elastic.
- 6. Place the dough into a bowl and cover loosely with clingfilm, allow to rise for 1 hour in a warm place.
- 7. Reshape dough into a lightly oiled loaf tin and prove again for 20 minutes.
- 8. Bake at 180°C/350°F/Gas Mark 4 for approximately 35 minutes until golden.

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in	fo	rn	na	ti	on

Oat Bread 100g	Energy 1093kJ 259kcal	Fat 3.7g	Saturates 0.6g	CHO 47.1g	Sugars 2.6g	Protein 7.9g	Fibre 2.9g	Salt 0.63g	
Barley Bread 100g	Energy 1048kJ 248kcal	Fat 2.2g	Saturates 0.2g	CHO 47.6g	Sugars 2.5g	Protein 7.5g	Fibre 3.8g	Salt 0.63g	

Oat/Barley content

190
per 600
serving



### **Bannocks**

Bannocks are a variety of flat bread that are traditionally from Scotland, Ireland and Northern England. They are usually made in rounds and then cut into quarters for serving with butter, cheese or jam. There are many different varieties of bannock, such as the Orkney Beremeal bannock made with flour from bere barley, or the Selkirk bannock which is more similar to a fruitcake in texture. The bannock recipe here, courtesy of Anne Johnson in Orkney, offers both barley and oat versions.

### Ingredients

115g b	peremeal/barley flour or oatmeal/oat flour
115g p	plain white flour
6g bak	ring powder
pinch o	of salt
15g ve	egetable oil spread
160ml	semi-skimmed milk
15g su	gar (optional)

#### Method

- 1. Sift the dry ingredients together. Add sugar.
- 2. Rub in vegetable oil spread.
- 3. Add milk and mix.
- 4. Spilt into two and shape into large rounds about 2cm thick.
- 5. Heat a griddle or thick bottomed pan (the correct temperature is reached when flour sprinkled onto the pan turns golden).
- 6. Cook the bannocks on each side for about 3-5 minutes.
- 7. The bannocks can also be baked in the oven instead of on a griddle or pan, at 180°C for around 20 minutes.

Nutrition information	Per 100g Bannock	Energy 1108kJ 262kcal	Fat 3.3g	Saturates 0.9g	Sugars 6.1g	Protein 7.2g	Fibre 3.4g	Salt 0.58g	Oat/Barley content
									of oats/barley per 1/4 bannock



# **Scones** (makes 6)

There are all sorts of varieties of scone with additions such as fruit, cheese and chocolate to name a few, and the recipe here can really be used as a basis. These plain scones have replaced half of the usual flour with oat or barley flour. The amount of flour replaced really depends on personal preference but half and half is a good starting point.

### **Ingredients**

110g self-raising flour	
110g oat flour or barley flour	
1 teaspoon of baking powder	
55g butter or vegetable oil spread	
25g caster sugar	
<sup>1</sup> / <sub>4</sub> teaspoon of salt	
120ml milk	

#### Method

- 1. Mix together the flours, baking powder and salt.
- 2. Chop up the butter and rub it into the flour mixture until it resembles a breadcrumb texture.
- 3. Stir in the sugar.
- 4. Slowly add the milk and stir the mixture until it comes together into a ball.
- 5. Turn out the mixture onto a lightly floured surface and roll out to a thickness of approximately 2cm.
- 6. Prepare a greased baking sheet.
- 7. Cut out the scones using an 8cm cutter and place on the baking sheet.
- 8. Bake in a pre-heated oven at 200°C/400°F/Gas Mark 6 for 15-20 minutes until golden brown.

Nutrition	
information	

Oat Scone 58g	Energy 897kJ 214kcal	Fat 8.6g	Saturates 4.8g	CHO 27.6g	Sugars 4.8g	Protein 5.3g	Fibre 2.2g	Salt 0.67g
Barley	Energy	Fat	Saturates	CHO	Sugars	Protein	Fibre	Salt
Scone	1048kJ	7.9g	4.6g	29.6g	4.8g	3.8g	1.8g	0.67g

Oat/Barley content

18g
per
scone



# Oatcakes (makes 15)

Oatcakes have long been a part of the Scottish diet, and like many traditional recipes this simple savoury oat biscuit is subject to many slight variations. The type of oatmeal used affects the texture of the oatcake and more modern varieties can also be flavoured with things like cheese, herbs or seeds. This recipe is for a plain oatcake and although traditionally topped with butter and cheese, oatcakes are suited to all kinds of sweet and savoury toppings.

### **Ingredients**

165g oatmeal (keep 30g in reserve to sprinkle on work surface)

15g melted butter

1/4 teaspoon of bicarbonate of soda

Pinch of salt

75ml hot water

#### Method

- 1. Preheat oven to 180°C/350°F/Gas Mark 4.
- 2. Put the oatmeal in a bowl and mix with the bicarbonate of soda and salt.
- 3. Add the butter and water.
- 4. Stir well with a wooden spoon.
- 5. Sprinkle the work surface with the reserved oatmeal.
- 6. Roll out the dough to the desired thickness and cut out rounds.
- 7. Place on a baking tray and bake for about 25 minutes.
- 8. Once cool keep in an air tight container.

# Nutrition information

Per 100g	Energy 1882kJ 448kcal	Fat 15.0g	Saturates 4.4g		Sugars trace	Protein 12.4g	Fibre 9.9g	Salt 0.87g
Per	Energy	Fat	Saturates	CHO	Sugars	Protein	Fibre	Salt
Oatcake	207kJ	1.7g	0.5g	6.7g	trace	1.4g	1.1g	0.10g

Oat/Barley content

10g
per
per
oatcake



## **Scotch Pancakes** (makes 6-7)

Also known as drop- or dropped-scones, these pancakes are quick to make and are delicious served warm, often with butter and jam, but the choice is yours. In this recipe half of the wheat flour has been replaced with oat or barley flour but you could substitute it all if you prefer. Crepe-style pancake recipes can also be adapted by using oat or barley flour in the same way and can be served with both sweet and savoury fillings.

### **Ingredients**

50g self-raising flour
50g oat/barley flour
½ teaspoon baking powder
40g sugar
1 egg
125ml of milk
1 tablespoon of oil

#### Method

- 1. Sieve the flours and baking powder into a large bowl and add the sugar.
- 2. Add the egg and milk and beat well until you have a smooth batter.
- 3. Heat a shallow pan to a moderate heat with some of the oil.
- 4. Use a ladle to drop batter into a pan forming a round shape.
- 5. Cook the pancake until bubbles appear, then turn once and leave until cooked.

Nut	tritic	n
info	orma	ation

Per 100g	Energy 1186kJ 281kcal	Fat 6.5g	Saturates 1.4g	CH0 47.4g	Sugars 20.6g	Protein 7.4g	Fibre 1.4g	Salt 0.50g
Per Pancake (Av 38g)	Energy 451kJ 107kcal	Fat 2.5g	Saturates 0.5g	CHO 18.0g	Sugars 7.8g	Protein 2.8g	Fibre 0.5g	Salt 0.19g

Oat/Barley content

70

of oats/barley per pancake



# **Shortbread** (makes 12)

In this shortbread recipe half of the wheat flour has been replaced with oat or barley flour but the recipe will also be successful if you replace all of the wheat flour. With the barley flour the shortbread can be slightly darker than when wheat flour is used, and have a more distinct flavour. The oat flour will give a product that looks more similar to the traditional wheat flour shortbread.

### **Ingredients**

50g caster sugar	85g plain flour	
	85g oat / barley flour	
100g butter	50g caster sugar	
1008 batter	100g butter	

#### Method

- 1. Mix together the flours and sugar in a bowl.
- 2. Chop up the butter into small pieces and rub it into the flour mixture until it all comes together and is mixed evenly.
- 3. Turn the mixture out onto a lightly floured surface and roll to about 1cm thick.
- 4. Use a 6cm cutter to cut out the shortbread and place on a baking sheet.
- 5. Bake at 200°C/400°F/Gas Mark 6 for 15 minutes until light golden.

Nutrition
information

Oat Energy Shortbread 539kJ 24g 129kcal	Fat 7.2g	Saturates 4.3g	CHO 14.2g	Sugars 4.2g	Protein 1.5g	Fibre 0.6g	Salt 0.12g
Barley Energy Shortbread 528kJ 24g 126kcal	Fat 6.9g	Saturates 4.2g	CHO 14.2g	Sugars 4.2g	Protein 1.4g	Fibre 0.8g	Salt 0.12g

Oat/Barley content

per



# **Banana muffins** (makes 6)

These banana muffins are a lovely way to use up those bananas in the fruit bowl that have gone a little too far into the brown stage. The riper the banana the sweeter it is, and the easier to mash so they are perfect for baking. In this recipe barley flour makes up the majority of the flour used but plain wheat flour is also used as it helps to keep the muffins that little bit lighter.

### **Ingredients**

90g plain white flour	
115g barley flour	
70g sugar	
2 eggs	
45ml olive oil	
40ml orange juice, unsweetened	
1 large banana	
1 teaspoon of baking powder	
1/4 teaspoon of salt	

#### Method

- 1. Preheat the oven to 180°C/350°F/Gas Mark 4.
- 2. Combine all the dry ingredients in a bowl.
- 3. In a separate bowl mix together all the wet ingredients until the mixture is thick and creamy.
- 4. Add the wet mixture to the dry ingredients and mix well.
- 5. Split into 6 muffin cases.
- 6. Bake for 20-25 minutes.

Nutrition
information

Per 100g	Energy 1318kJ 314kcal	Fat 11.3g	Saturates 1.9g	CHO 45.3g	Sugars 18.6g	Protein 6.3g	Fibre 2.8g	Salt 0.53g
Per	Energy	Fat	Saturates	CHO	Sugars	Protein	Fibre	Salt
Muffin	1160kJ	10g	1.6g	39.8g	16.3g	5.5g	2.5g	0.47g

Oat/Barley content 19g

muffin



# **Porridge**

There are many different recipes for porridge and anyone's favourite comes down to personal preference. Oatmeal or rolled oats? Water or milk? Salt or sugar? Providing just one recipe in this book would be impossible so instead here are some general guidelines and suggestions for anyone new to porridge. If you have more time you can even make barley porridge.

### Oat porridge

Traditional porridge recipes tend to use oatmeal with approximately 200ml of water per 50g oats, and a pinch of salt. The mixture can be soaked overnight before cooking in a pan next morning, bringing to the boil and simmering (stirring regularly) for 5-10 minutes, or until the desired consistency is reached. The amount of liquid may be reduced to 150ml per 50g of oats, or doubled to 400ml. It depends if you like your porridge thick or thin.

Using rolled oats instead of oatmeal creates quicker porridge as the liquid is soaked up more easily. If stirring the mixture in a pan still takes too long, 2-3 minutes in a microwave, stirring half way through, is enough. Finally, if you have a slow cooker then prepare it the night before and slow cook over night to be ready for breakfast.

Newer recipes may replace half or all of the water with milk. Salt versus sugar definitely depends on personal preference but a teaspoon or so of sugar is enough to sweeten a 50g bowl of porridge. To cut down on the amount of salt and sugar prepare the porridge without either and add flavour using fruit (bananas, apples, blueberries and blackberries), spices (cinnamon or nutmeg) or add nuts and seeds for more crunch. Honey and maple syrup are delicious alternatives to sugar, but still provide the calories so don't add too much.

### **Barley porridge**

Barley porridge takes a little longer to cook and needs slightly more liquid, roughly 250ml for 50g barley. You can use either pearl barley or barley flakes. The pearl barley takes around 40 minutes to cook but overnight soaking with water reduces the cooking time in the morning. If using milk, soak the barley in water first, drain, add milk and cook as normal.

#### **Nutrition information for oat porridge**

Per 100g made with semi-skimmed milk*	Energy 487kJ 116kcal	Fat 3.0g	Saturates 1.2g			Protein 5.3g	Fibre 1.4g	Salt 0.14g
Per 100g made with water*	Energy 296kJ 70kcal	Fat 1.4g	Saturates 0.2g	CHO 11.6g	•	Protein 2.1g	Fibre 1.4g	Salt 0.0g

Oat/Barley content 30g uncooked oats or barley will make a fairly small bowl of porridge whilst 70-80g will provide a particularly large serving for one person.

<sup>\*</sup> Nutrition information is given for porridge made without salt or sugar



# **Oat and Barley Brose**

Historically brose was a drink made from oatmeal, or other grains, soaked in water. Over the years the drink has developed and the Atholl Brose version, made with the addition of whisky and honey has become more popular. Now it is also served as a pudding by adding cream.

Oat brose can be used as a dairy substitute for drinks such as smoothies or hot chocolate, or to replace milk on breakfast cereals, or maybe to replace milk in batter recipes such as for pancakes. It could even be used as the liquid component of porridge for an extra thick and creamy version.

Barley brose, or barley water as it is more commonly called, is made in virtually the same way as the oat version but has developed more as a soft drink flavoured with citrus fruits and sugar.

The barley can be soaked in the water at room temperature for around 24 hours before straining, or it can be cooked for around 20-25 minutes. Either way the mixture should then be sieved or passed through a muslin cloth to collect the barley water. This can be flavoured with the juice from freshly squeezed citrus fruits, such as oranges and lemons, and sugar or honey can be added for sweetness.

#### **Oatmeal brose**

Barl	ey l	br	ose
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200g oatmeal	100g barley
400ml water	300ml water

#### Method

- 1. Soak the oatmeal in the water for at least 30 minutes.
- 2. Pass the mixture through a fine sieve or muslin cloth to collect the liquid i.e. the brose. Use a spoon to push as much as possible through.
- 3. The brose can then be used as a drink by itself or as the basis of other drinks in place of dairy products such as milk or yoghurt see Oat Drinks.
- 4. This recipe should produce on average 250ml of brose.

Nutrition
information

Per Energy 100g 450kJ 107kcal	Fat 2.2g	Saturates 0.0g		Sugars 0.0g	Protein 3.4g		Salt 0.02g
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per 100g

## **Oat Drinks**

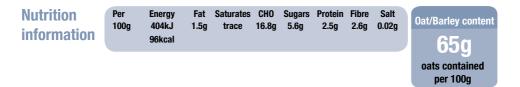
As mentioned in the brose recipe, oat brose can be used as a dairy substitute in drinks and cereals. Commercial versions are now widely available in supermarkets and are usually found with other dairy substitutes, such as soy and almond 'milks'.

### **Ingredients**

1 banana	
Handful of strawberries	
250ml oat brose	

#### Method

- 1. Put all the ingredients into a blender and mix until smooth, or use a hand blender in a bowl.
- If using a blender then you can also add a few ice cubes for an ice cold smoothie.
- 3. You can add most fruits to a smoothie, the combinations are up to you, just add the brose to give a nice thick and creamy texture.



Other flavours such as ginger, cinnamon and mint can also be used. These can be added once the brose has been prepared or, during the soaking / cooking stages, for a stronger flavour.

The versions here are open to adaptation in terms of the flavours added. Either brose should keep for up to 3 days if kept refrigerated in a sealed container.

The leftover grains can be used in other dishes such as porridge and stews.

# **Sourcing the ingredients**

Pearl barley Available in most supermarkets and some local food shops

Barley groats Tesco, found in the Polish section (kasza jeczmienna)

Barley flour Available online from various suppliers including

www.healthysupplies.co.uk

Bere barley flour Barony mill, Orkney - suppliers vary so please contact them

for up to date information

Barley couscous Currently only available at www.Belazu.com

Rolled oats Available in most supermarkets and local food shops

Oatmeal Available in most supermarkets

Oatmeal of Alford Supply a range of oatmeals online www.oatmealofalford.com

and is available in some Tesco stores

Aberfeldy oatmeal Available in various local and national outlets e.g. Dobbies

food halls

Oat flour\* Available in some health food stores such as Holland

and Barrett

Available online from various suppliers including www.healthysupplies.co.uk offers a range of suppliers

Oat groats Available online from various suppliers including

www.healthysupplies.co.uk

www.buywholefoodsonline.co.uk

Oat drink Available in most supermarkets, usually found in non-chilled

section with substitute 'milks' e.g. soya, almond etc.

If you cannot find the product you are looking for then also try asking your local health food store to order it for you.

Oat products suitable for individuals with coeliac disease will be labelled as 'gluten-free'.

<sup>\*</sup> For recipes that require the use of oat or oatmeal flour a suitable oat flour can be produced by blending either oatmeal or rolled oats in a food processor until it is a fine powder.

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## References

Information on sustainability and healthy eating advice sourced from

Food Standards Scotland www.foodstandards.gov.scot

European Food Information Council (EUFIC) www.eufic.org/

Food and Agricultural Organisation of the United Nations (FAO) www.fao.org/home/en/

All information correct as of September 2015