Understanding oats and their nutritional benefits

Welcome!

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Housekeeping

- The webinar is being recorded and will be available on www.foodafactoflife.org.uk.

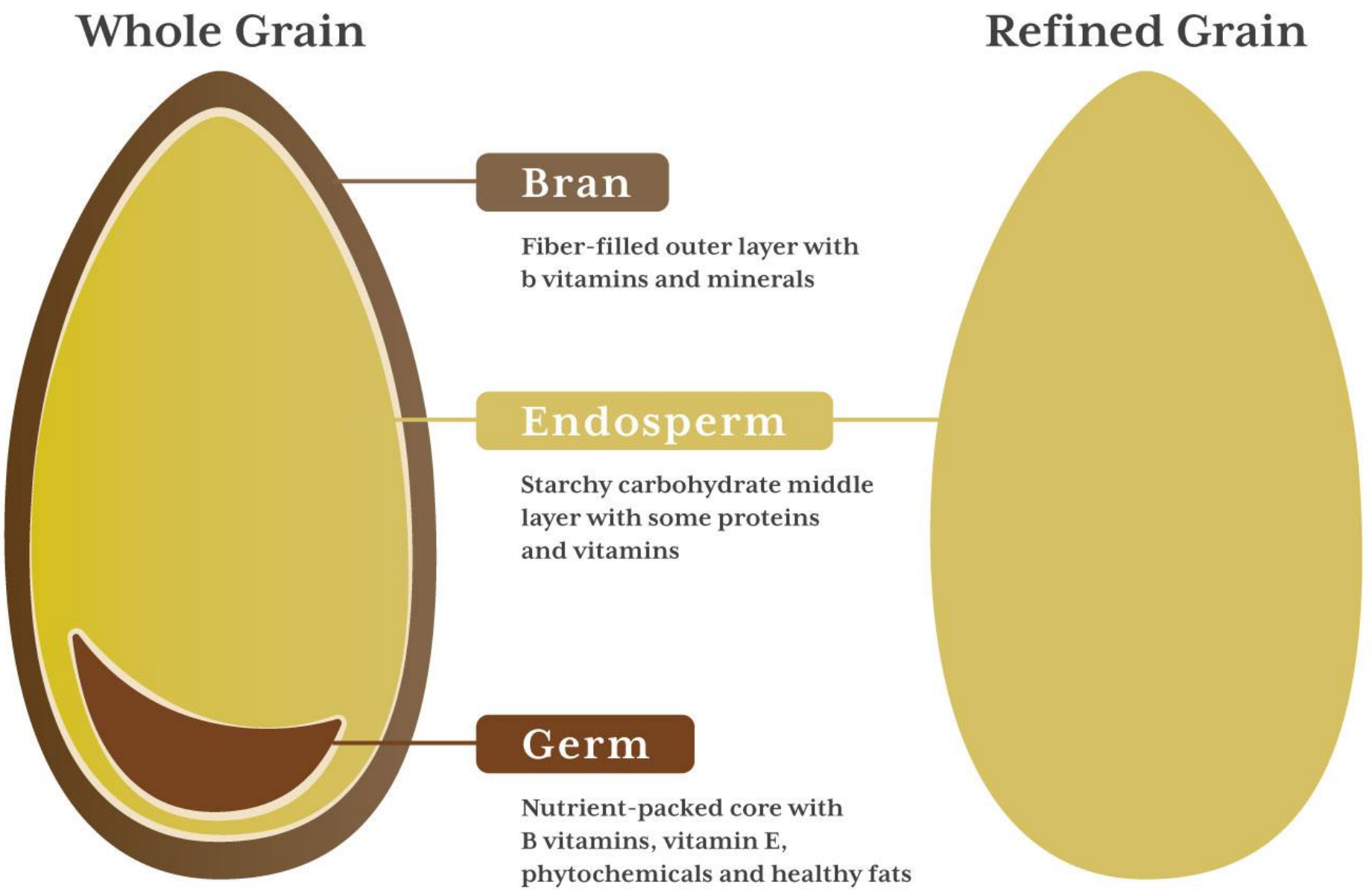
- If you have any questions, please type them in the chat box and they will be answered at the end.

- At the end of the webinar, please complete a short online evaluation (1min). Once submitted you will be given a link to a downloadable certificate. Please download the certificate, add your name and print it for your records.

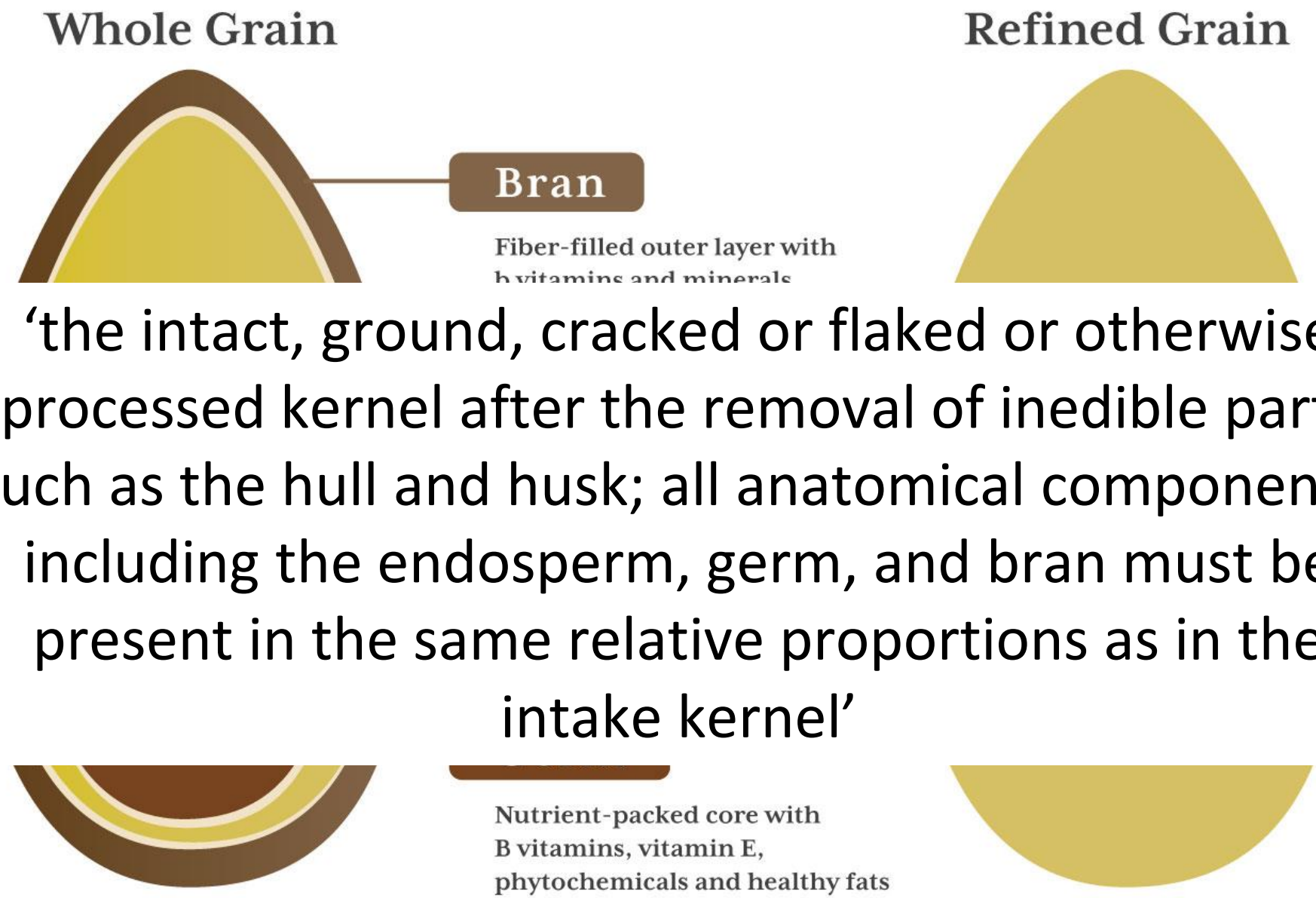
Understanding oats and their nutritional benefits – online evaluation

Understanding oats and their nutritional benefits

04/06/2025



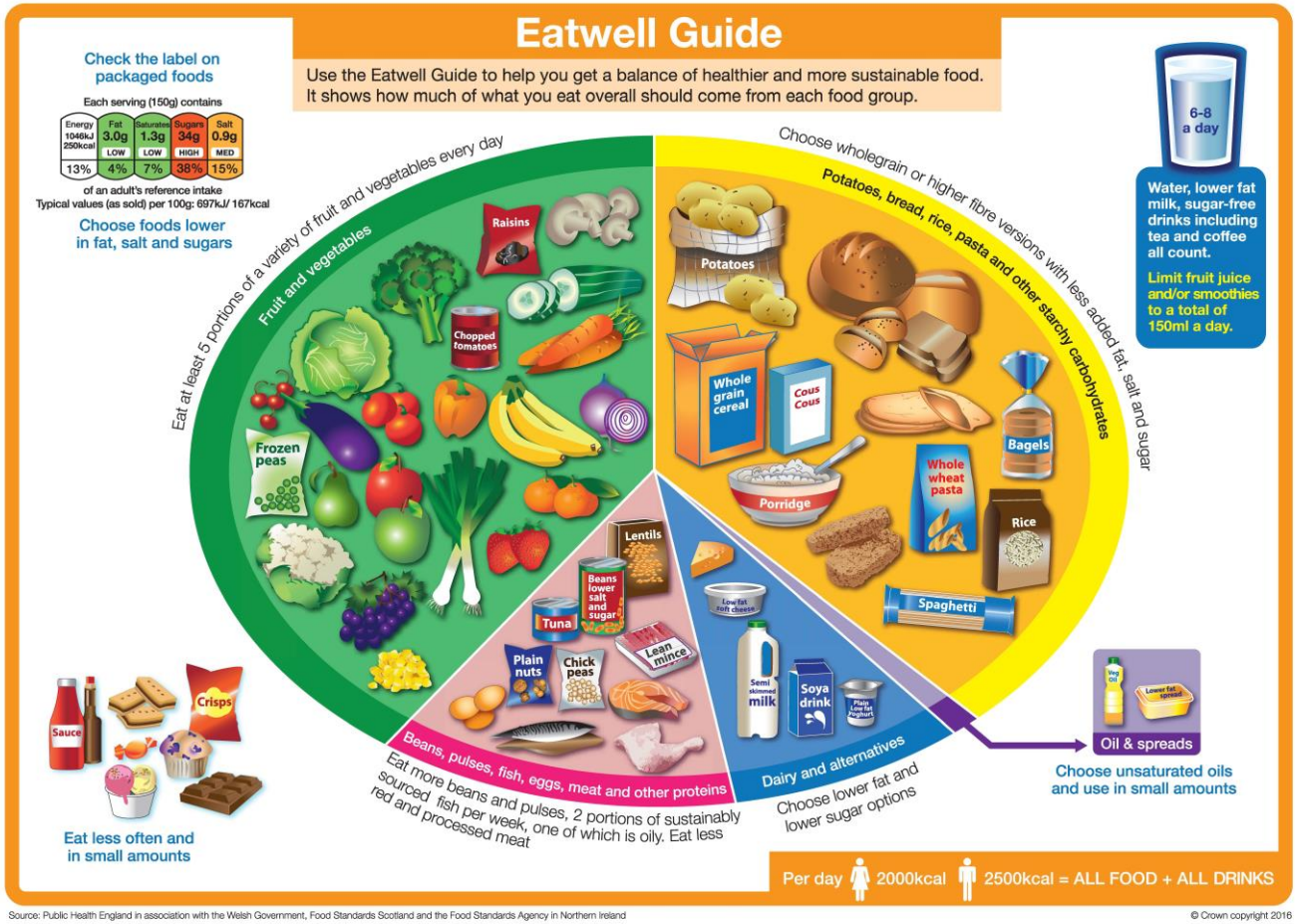
van der Kamp *et al* 2021



‘the intact, ground, cracked or flaked or otherwise processed kernel after the removal of inedible parts such as the hull and husk; all anatomical components, including the endosperm, germ, and bran must be present in the same relative proportions as in the intake kernel’

van der Kamp *et al* 2021

Wholegrains



Dietary Recommendations

- 95% adults don’t eat enough
- 1/3 don’t eat wholegrains
- 19.7g fibre per day

Oats

Overview of Oats

Nutritional Profile of Oats

Macronutrients	
Energy	392 kcal
Fat	8.1g
of which saturated	1.3g
Carbohydrates	64g
of which sugars	0.5g
Fibre	7.8g
Protein	12g
Salt	0g

McCance & Widdowson (2014)

Nutritional Profile of Oats

Minerals		Vitamins	
Potassium	370mg (18.5%)	Vitamin E	0.59mg (5%)
Calcium	50mg (6%)	Vitamin B1	1.05mg (95%)
Phosphorus	390mg (56%)	Vitamin B3	3.5mg (22%)
Magnesium	110mg (30%)	Vitamin B5	0.75mg (12.5%)
Iron	3.6mg (26%)	Vitamin B6	0.34mg (24%)
Zinc	2.3mg (23%)	Biotin (B7)	19µg (38%)
Manganese	3.7mg (185%)	Folate (B9)	32µg (16%)

Normal energy-yielding metabolism, function of the nervous system, psychological function and function of the heart

McCance & Widdowson (2014), EU Nutrient Reference Value for labelling

Beta-Glucans

4-6g/100g

2-20g/100g

0.5-2g/100g

Beta-glucans from oats and barley

Consumption of beta-glucans from oats or barley as part of a meal contributes to the reduction of the blood glucose rise after that meal

Health relationship: reduction of post-prandial glycaemic responses

Authorised

Oat beta-glucan

Oat beta-glucan has been shown to lower/reduce blood cholesterol. High cholesterol is a risk factor in the development of coronary heart disease

Health relationship: -/-

Authorised

Beta-glucans

Beta-glucans contribute to the maintenance of normal blood cholesterol levels

Health relationship: maintenance of normal blood cholesterol concentrations

Authorised

Oat grain fibre

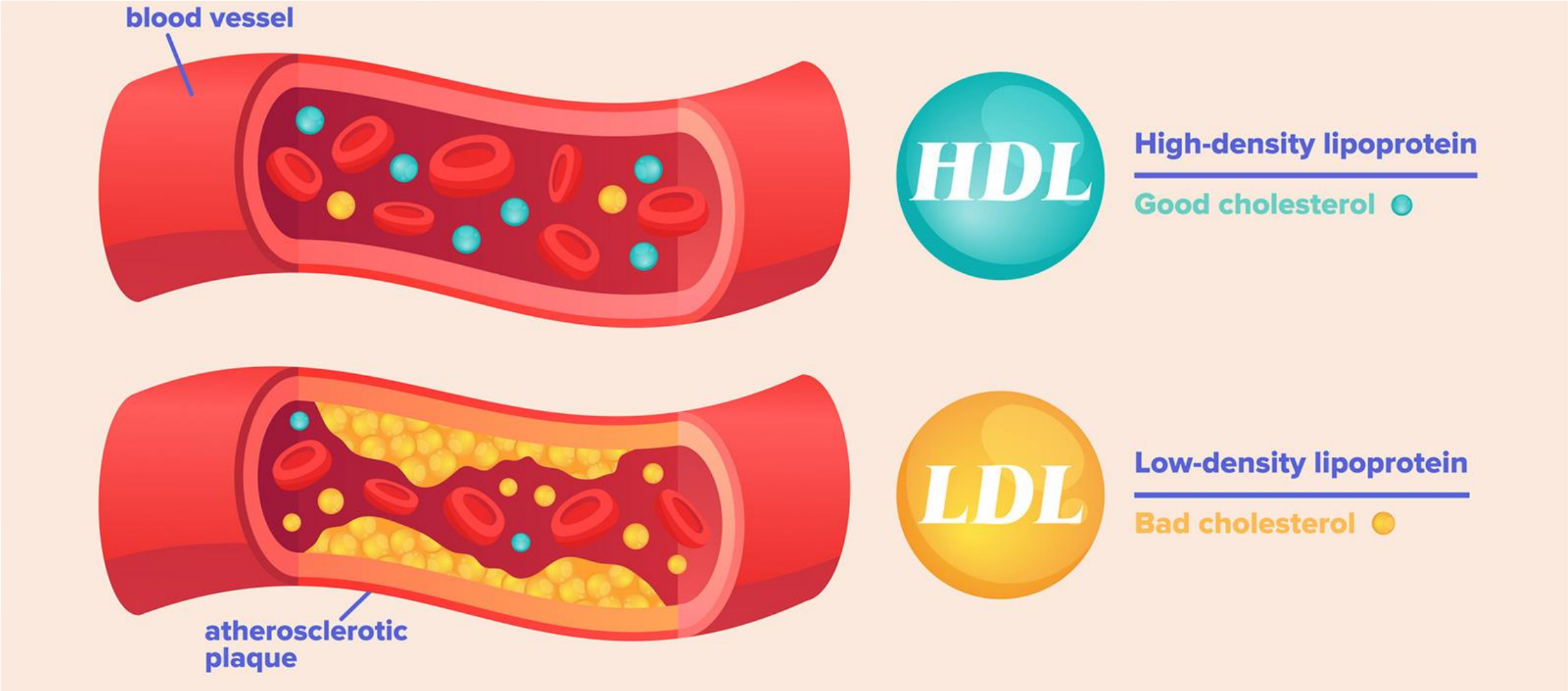
Oat grain fibre contributes to an increase in faecal bulk

Health relationship: increase in faecal bulk

Authorised

Health Benefits of Oats

Cholesterol Reduction



Cholesterol Reduction

Cholesterol-lowering effects of oat β-glucan

Rgia A Othman, Mohammed H Moghadasian, Peter Jh Jones

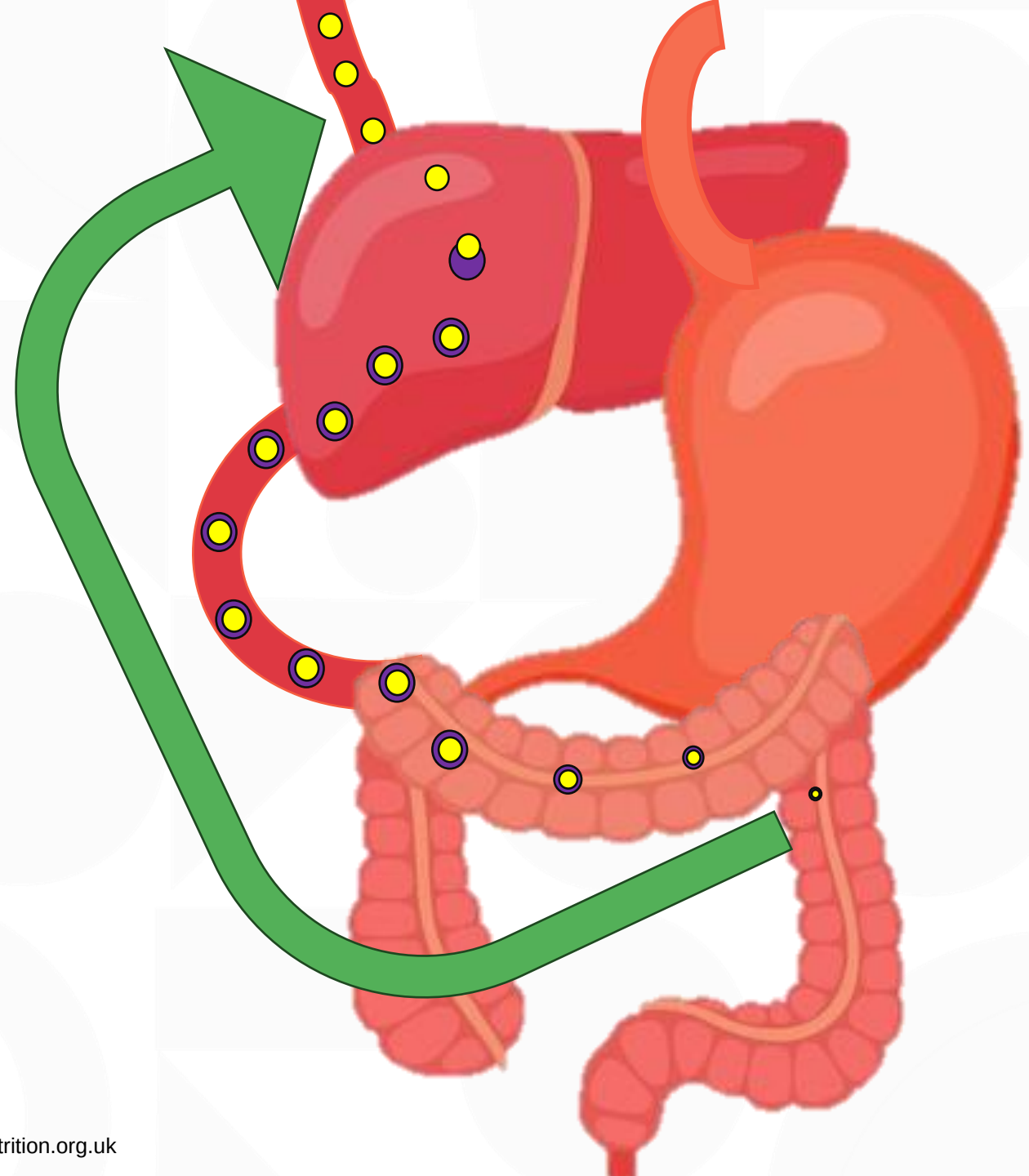
Nutrition Reviews, Volume 69, Issue 6, 1 June 2011, Pages 299–309,
https://doi.org/10.1111/j.1753-4887.2011.00401.x
Published: 01 June 2011

The effect of oat *β*-glucan on LDL-cholesterol, non-HDL-cholesterol and apoB for CVD risk reduction: a systematic review and meta-analysis of randomised-controlled trials

Published online by Cambridge University Press: **11 October 2016**

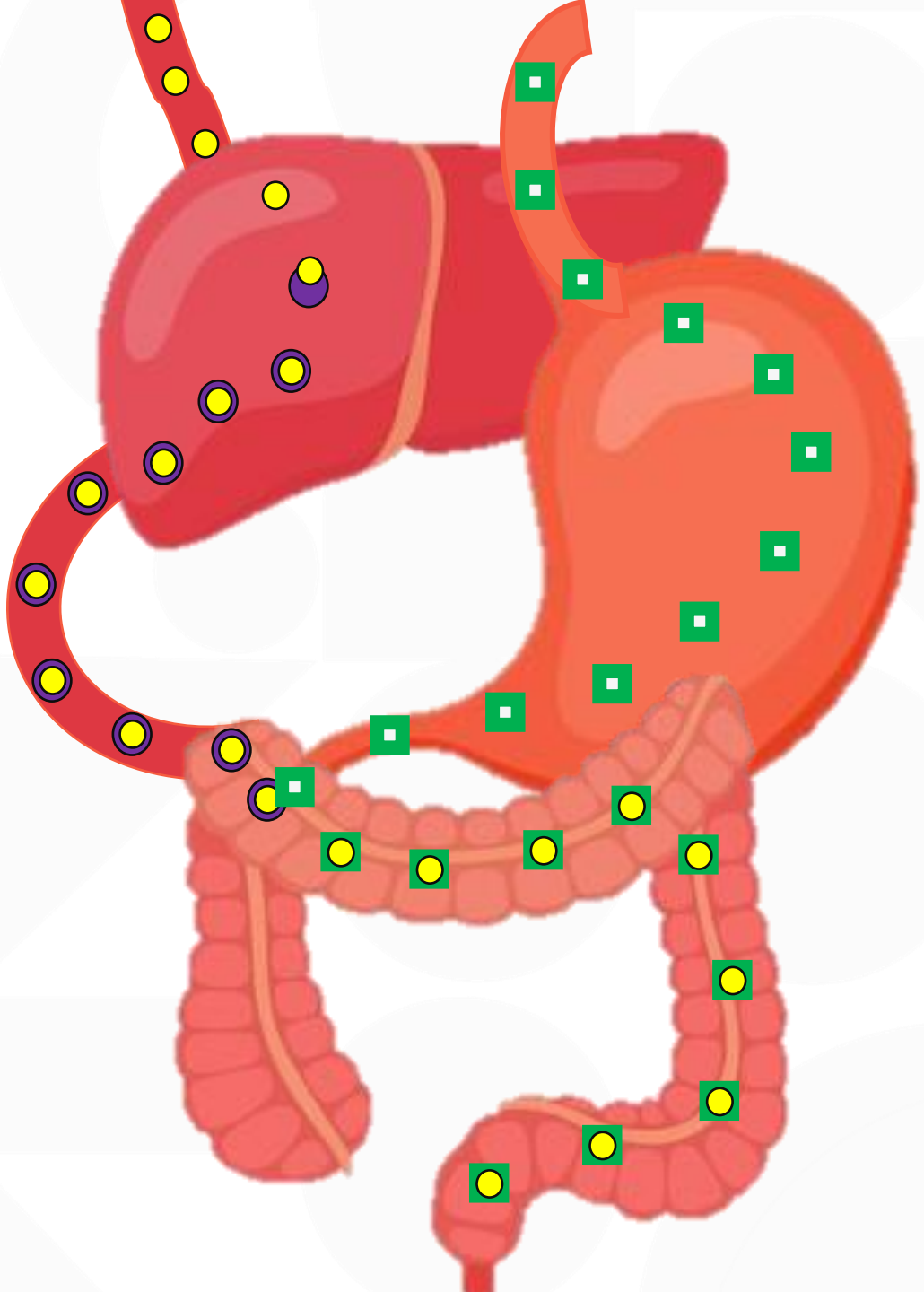
Hoang V. T. Ho, John L. Sievenpiper, Andreea Zurbau, Sonia Blanco Mejia, Elena Jovanovski, Fei Au-Yeung, Alexandra L. Jenkins and Vladimir Vuksan

Show author details



Cholesterol

Bile acids



Cholesterol

Bile acids

Beta-glucan

Cholesterol Recap

- Forms a gel
- Gel traps bile acids
- Prevents reabsorption
- Excreted in stools
- Less reabsorption of bile acids
- Liver must use blood LDL cholesterol to make bile acids
- Lower LDL cholesterol levels
- Two authorised health claims

Cholesterol Recap

- Forms a gel

Oat beta-glucan

Oat beta-glucan has been shown to lower/reduce blood cholesterol. High cholesterol is a risk factor in the development of coronary heart disease

Health relationship: -/-

Authorised

Beta-glucans

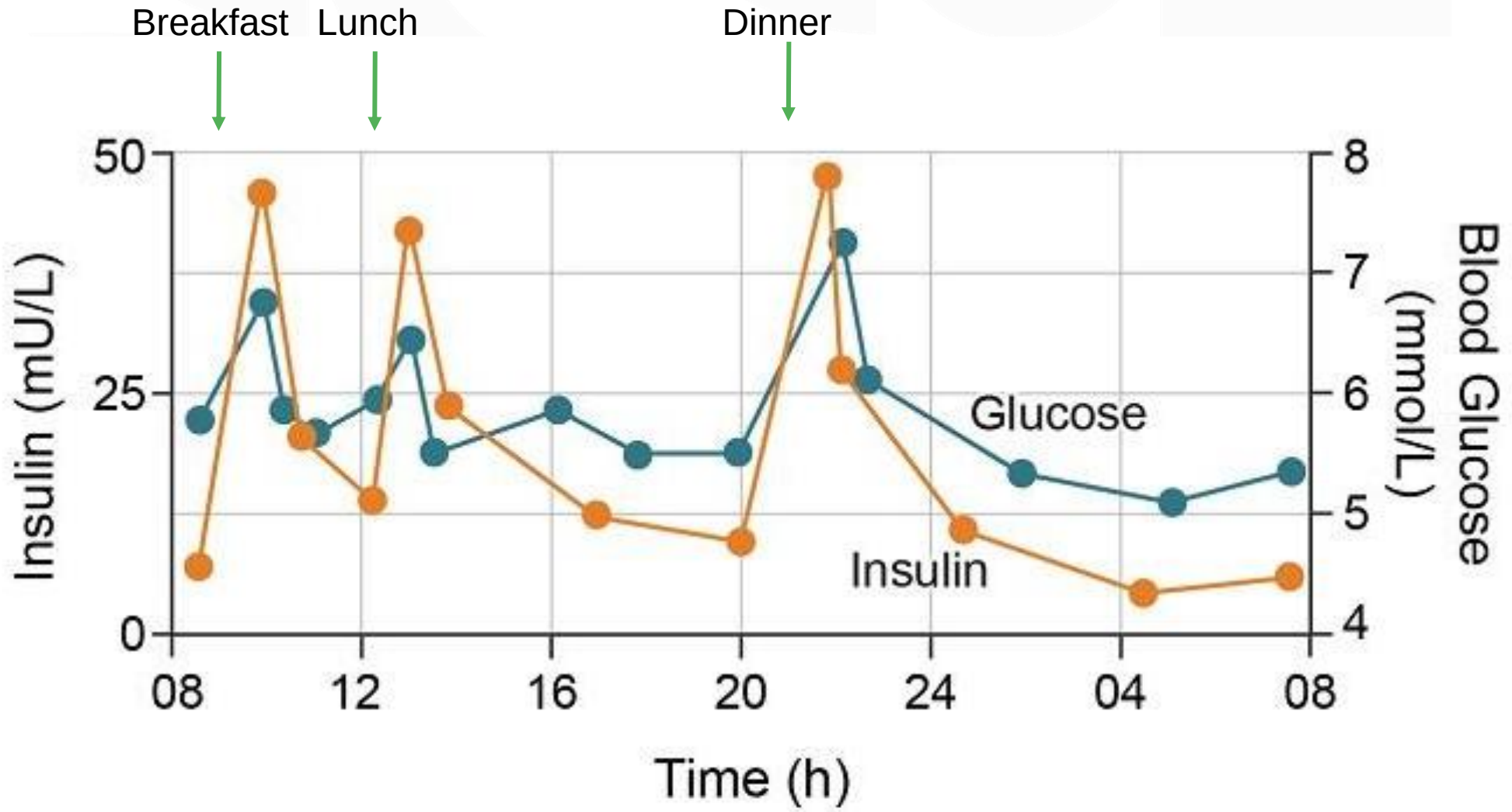
Beta-glucans contribute to the maintenance of normal blood cholesterol levels

Health relationship: maintenance of normal blood cholesterol concentrations

Authorised

- Two authorised health claims

Blood Sugar Control & Diabetes Management



Blood Sugar Control & Diabetes Management

- Viscosity of beta-glucans slow and delays gastric emptying
- Impacts glucose absorption in small intestines
- Can help control blood glucose levels and improve insulin response

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Beta-glucans from oats and barley

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Health relationship: reduction of post-prandial glycaemic responses

Authorised

Blood Sugar Recap

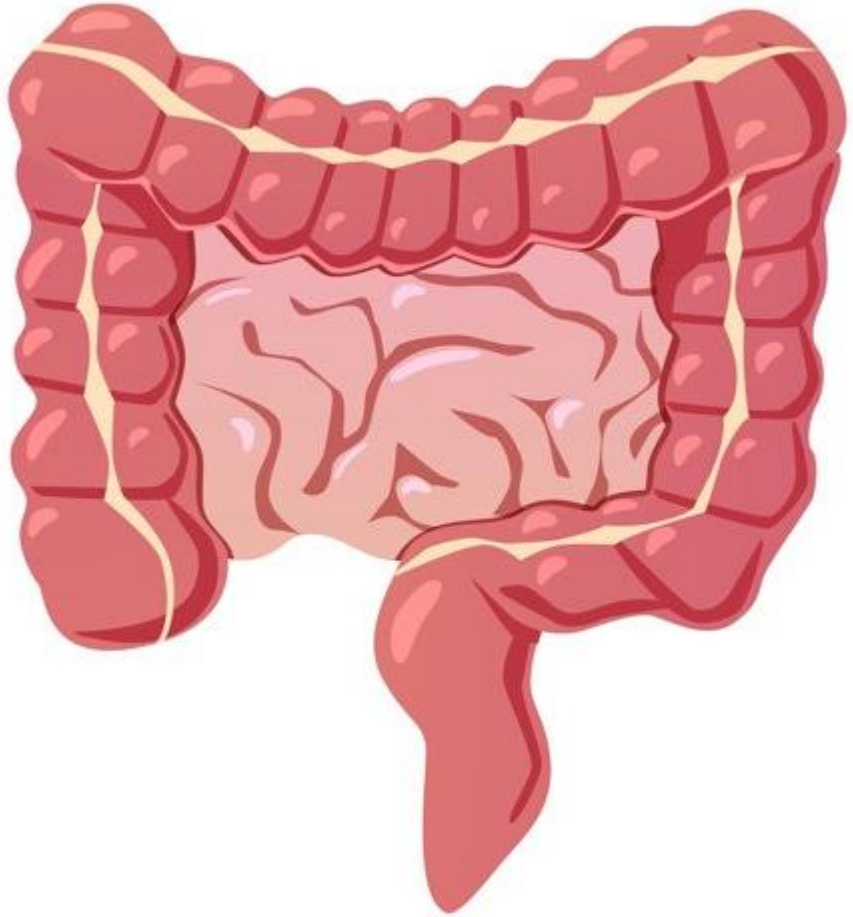
- Beta-glucans can improve post-prandial (after eating) blood glucose and insulin responses
- Long-term consumption supports better glycaemic controls, improved insulin sensitivity and lowers type 2 diabetes risk
- 3-4g beta-glucans per day

Some considerations

- Level of oat processing
- Watch out for added sugars
- 3-4g beta-glucans per day

Gut Health & Digestion

- Improved stool consistency and bowel regularity
- Supporting gut transit time
- Modulation of gut microbiota
- Immunomodulatory and anti-inflammatory effects
- Barrier function and mucosal health



Gut Health & Digestion

- Improved st
- Supporting
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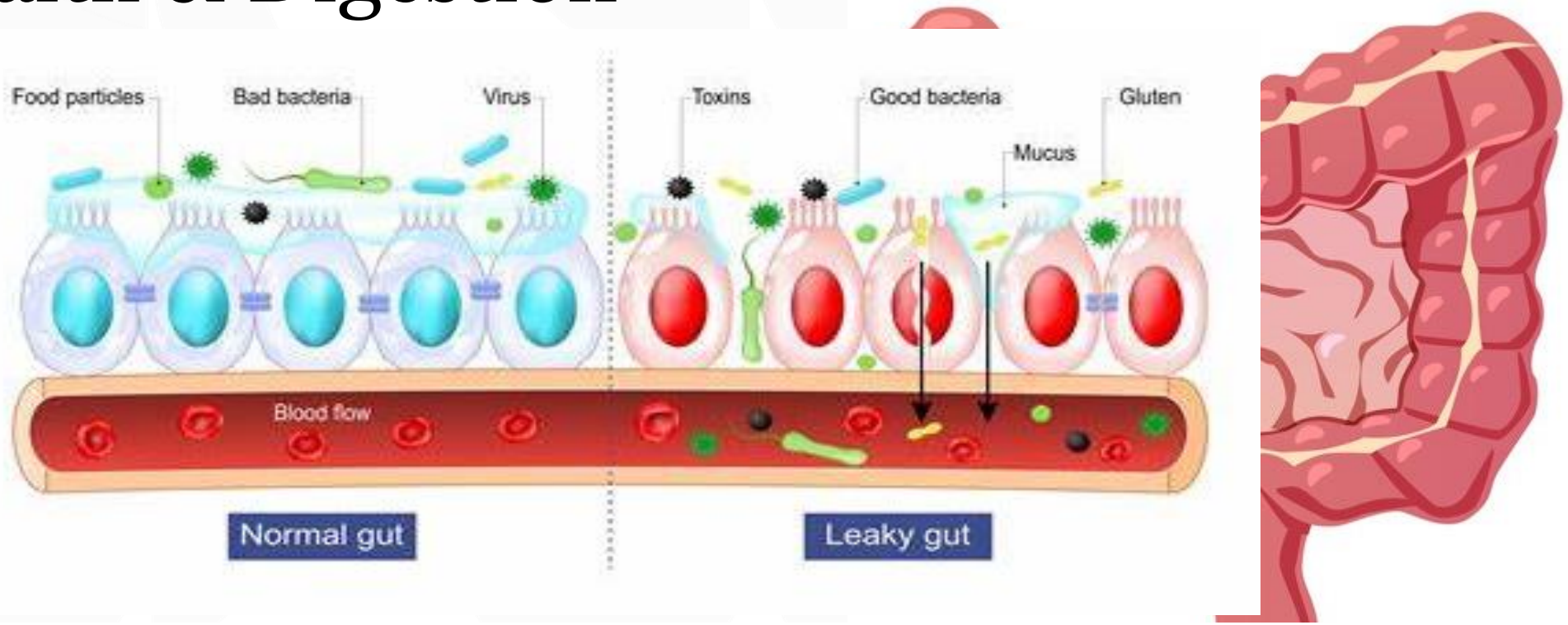
- Immunomo



Oat grain fibre

Oat grain fibre contributes to an increase in faecal bulk

Health relationship: increase in faecal bulk

Authorised

Oat Misconceptions

“Oats spike your blood glucose levels”

Oatzempic

Summary

- Oats are a good source of dietary fibre
- Beta-glucans are a type of dietary fibre which form a viscous gel
- This can help with
    - Reducing and/or maintaining blood cholesterol
    - Slow gastric emptying to improve glycaemic control
    - Improve satiety
    - Improve digestive health
- 4 associated health claims
    - 2 around cholesterol
    - 1 on blood glucose
    - 1 on faecal bulk

Recipe Ideas






Recipe Idea Links

https://www.foodafactoflife.org.uk/recipes/healthy-eating-week/awesome-overnight-oats/

https://www.foodafactoflife.org.uk/recipes/11-14-l2c/herby-veggie-crumble/

https://www.foodafactoflife.org.uk/recipes/11-14-l2c/fruity-flapjacks/

https://www.foodafactoflife.org.uk/recipes/cereals/apple-muffins/

https://www.foodafactoflife.org.uk/recipes/breakfast/breakfast-energy-bars/

https://www.foodafactoflife.org.uk/recipes/breakfast/oatmeal-loaf/

https://www.foodafactoflife.org.uk/recipes/breakfast/blueberry-and-oat-muffins/

https://www.foodafactoflife.org.uk/recipes/breakfast/pear-and-cinnamon-bircher-muesli/

https://www.foodafactoflife.org.uk/recipes/breakfast/chia-breakfast-pots/

https://www.foodafactoflife.org.uk/recipes/11-14-l2c/apple-and-sultana-crumble/

https://www.foodafactoflife.org.uk/recipes/breakfast/wholemeal-cottage-loaf/

What will be covered?

- The role of wholegrains in the diet
- Nutrition and health claims related to oats
- How oats can help with cholesterol levels
- Busting nutrition myths around oats
- Oats production, processing and trends
- Links to *Food – a fact of life*
- Suggestions for further reading and sources of information

Oats are grown on about
170,000
hectares of land
in the UK

Oats are the third main crop grown in the UK and farmers produce on average around
one million tonnes per year

September

In the UK, oats are planted in September and harvested the following August

The harvesting process removes the grains from the plant

In the last full crop season (1 July 2023 to 30 June 2024), oat millers in the UK milled

501,000 tonnes of oats

The vast majority of which, **486,000 tonnes were grown in the UK**

just under **215,000 tonnes of oat flakes & rolled oats**

plus **79,000 tonnes of oat flour & other cuts**

Oats: Production

Oats are milled, steamed, heated and cooled in a kiln, which brings out the flavour. The oats are then rolled, cut or ground to produce flakes, oatmeal or flour.

- Rolled oats - known as oat flakes.
- Oatmeal - the tough bran has been removed and light baked, this can be coarse, medium or fine.
- Pinhead oats - known as coarse oatmeal or steel cut oats.
- Oat flour - finer than oatmeal, this is made by grinding and sieving oats.

Oats: Trends

According to Kantar's GB Grocery Consumer Panel, 35% of households purchased plant-based milk at least once in 2023, with nearly three quarters making multiple purchases.

IN THE UK, OAT MILK HAS BECOME THE MOST POPULAR PLANT-BASED MILK

OF THE MARKET BY VOLUME

ANNUAL SALES HAVE SURPASSED

£275 MILLION

WITH APPROXIMATELY

500,000 LITRES

SOLD DAILY

TOTALING AROUND

182 MILLION LITRES

Oat drinks: Fortification

- If people drink alternatives to dairy milk, such as oat milk, it is essential to check that it is fortified with nutrients, in particular iodine as this varies between brands.
- Iodine, is a nutrient of concern in the UK, particularly for teenage girls.
- Iodine helps to make thyroid hormones, and it helps the brain to function normally
- Low iodine intakes/status (not causing deficiency disease but below recommendations), is a concern in relation to pregnancy and cognitive development in children, leading to potential impact on cognitive abilities in children.

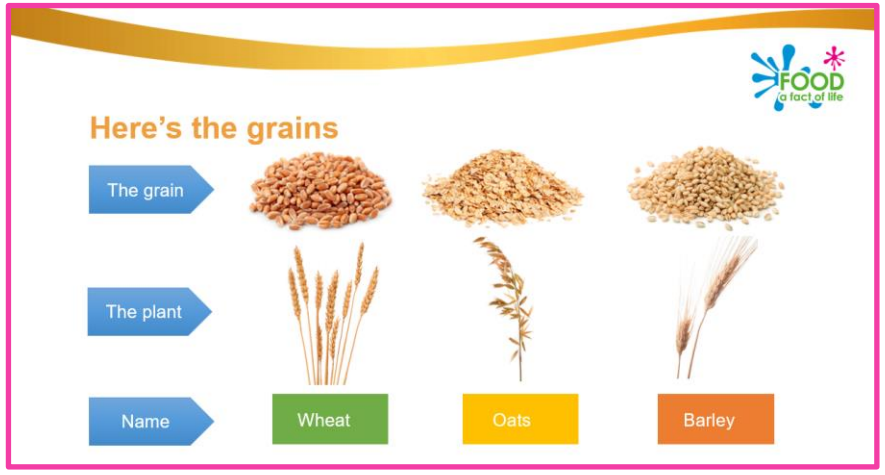
https://www.bda.uk.com/resource/iodine-deficiency-in-the-uk-dietetic-implications.html

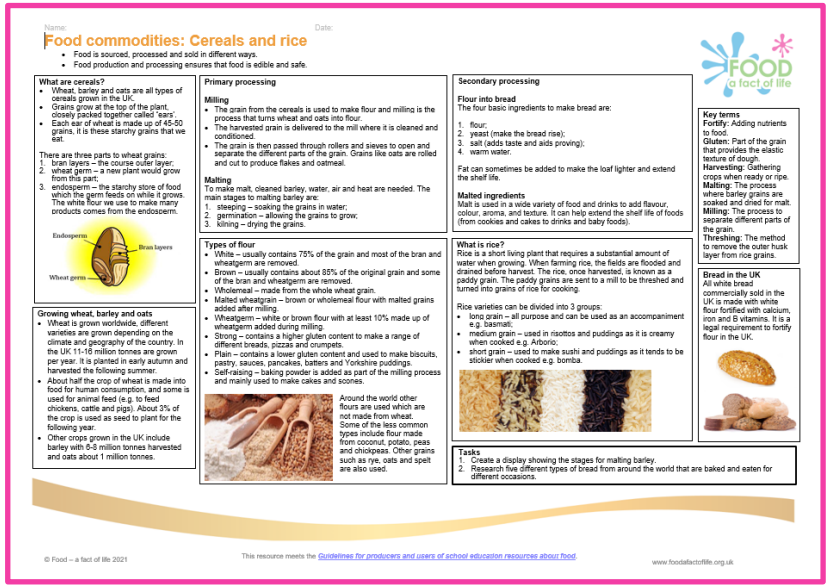
Oat trends: TikTok

#Oats: Over 133 million posts
#BakedOatsRecipes: Over 110 million posts
#OvernightOatsRecipe: Over 177 million posts
#OvernightOatRecipes: Over 193 million posts
#OatMeal: Over 133 million posts
#OatmealRecipesOnRestaurants: Over 100 million posts

Food – a fact of life resources

- Oat farming and processing presentation – 11-14 years and 14-16 years
- Farming food for you poster – cereals
- Knowledge organisers
- The grain chain game
- Recipes

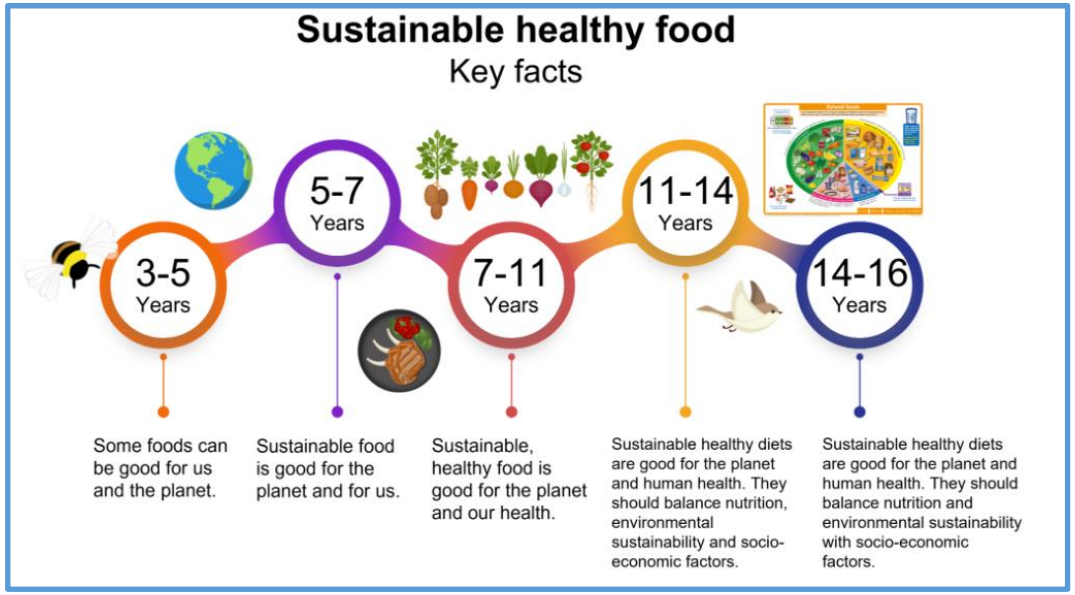




Sustainable healthy food resources

- A comprehensive presentation for pupils covering the main factors that make up a sustainable healthy diet.

- A variety of different pupil activities which support different learning styles, encourage independent learning and are suitable for individual, class or group work. These include pick and mix activities, role plays, research tasks and worksheets to check recall and understanding.

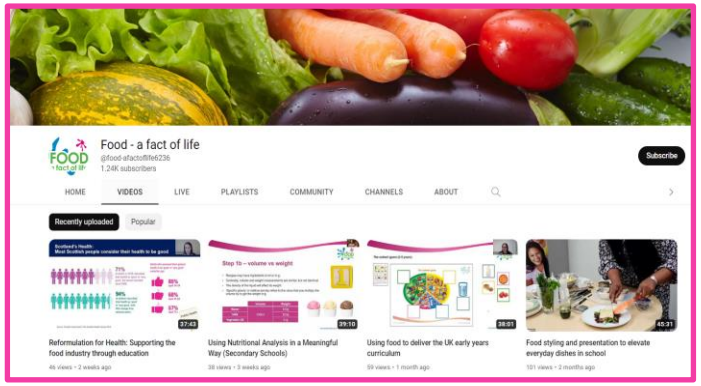


https://www.foodafactoflife.org.uk/whole-school/sustainable-healthy-food-new/

More training…

FREE online modular courses:

- Functional properties of food
- Sensory science
- Food spoilage, hygiene and safety
- Characteristics of teaching food and nutrition education- primary, secondary and pupils with additional needs



FFL webinar recordings

More online and in-person training coming soon!

To find out more and to book, go to https://www.foodafactoflife.org.uk/training/

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Sign up on the homepage: www.foodafactoflife.org.uk

PPD newsletter (find out about upcoming FFL training)

https://www.foodafactoflife.org.uk/professional-development/

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