

# The Whole Grain Picture: Sharing the Science Behind Oats

November 3, 2021

YiFang Chu, PhD, MBA, FACN

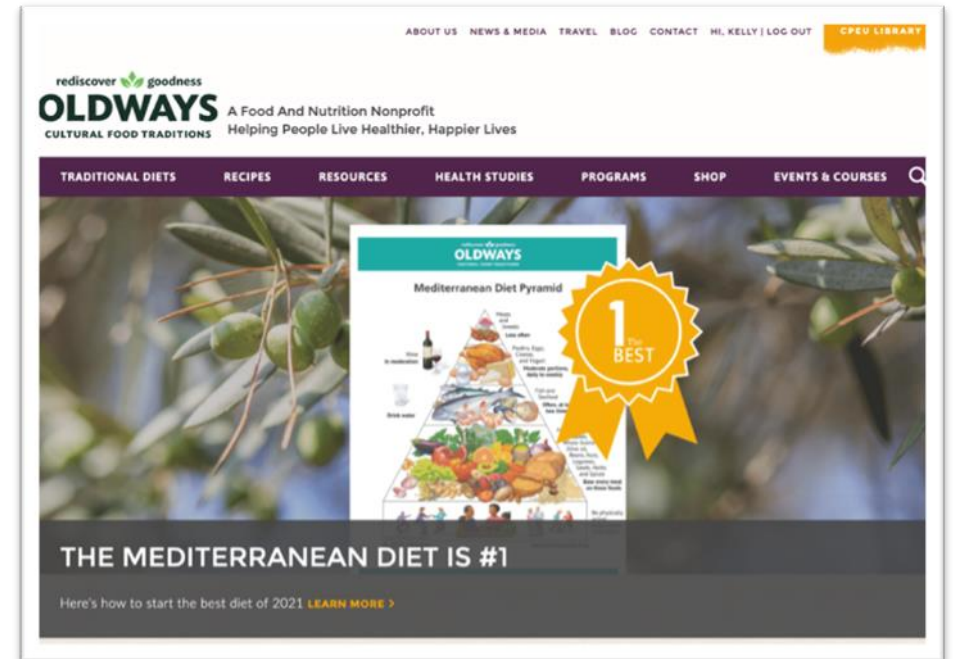
Dawn Jackson Blatner, RD, CSSD

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# About Oldways

- Nutrition nonprofit founded in 1990
- **Mission:** To inspire people to embrace the healthy and sustainable joys of the old ways of cooking and eating
- **Best Known for** Creating the Whole Grains Council and Whole Grain Stamp, Culinary Travel, Creating the Mediterranean Diet Pyramid



# Housekeeping

- Attendees will receive an email within ONE WEEK with **CPEU certificate, slides, and recording**
- Visit **[oldwayspt.org/CPEU](http://oldwayspt.org/CPEU)** to register for upcoming webinars or view recordings of previous webinars
- Please submit any questions using the CHAT function in Zoom
- Thank you to The Quaker Oats Company, a unit of PepsiCo, Inc., for sponsoring this session!

**Next Webinar: 11/16 at 1PM ET**



Webinar  
**The Economics of Whole Grain & Public Health**  
The Impact and Application of Eating More Whole Grains  
November 16 • 1:00 PM E.T.

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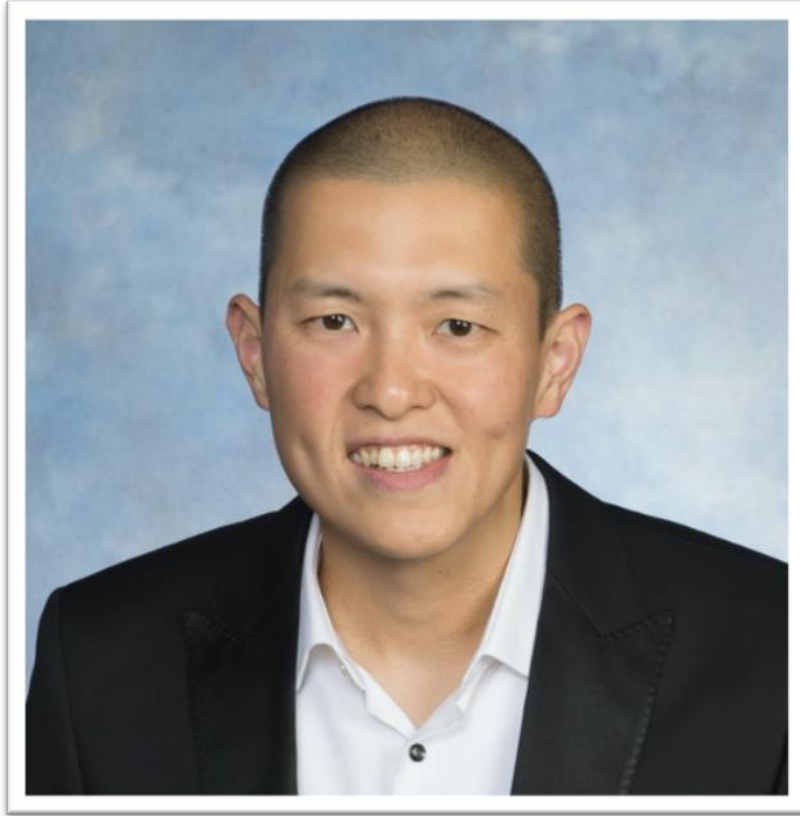
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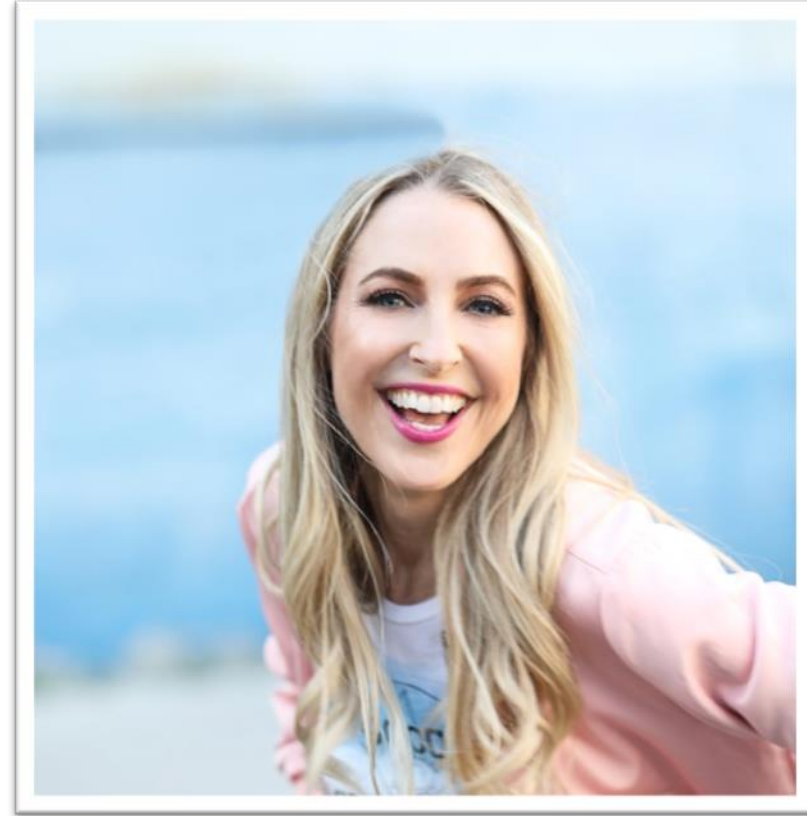
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# Today's Speakers



**YiFang Chu, PhD, MBA, FACN**



**Dawn Jackson Blatner, RDN, CSSD**

# Learning Objectives

- Learn more about what research has uncovered about the connection between this powerful whole grain and several benefits.
- Understand the difference between the different oat cuts and best culinary uses for each.
- Identify new communication techniques and culinary approaches to effectively relay science-based research to consumers.

# Oat Production: Seed to Spoon Journey



Growing the Oats



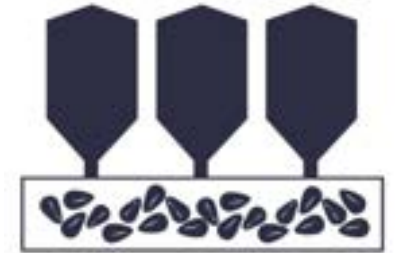
Testing the Oats



Storing the Oats



Transporting the Oats



Separating the Oats

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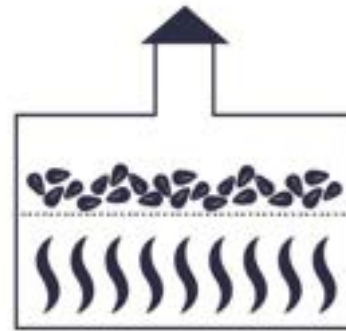
# Oat Production: Seed to Spoon Journey



Cleaning the Oats



Getting to the Groat



Kilning the Groat



Cutting & Flaking the Groats



**Are the oat varieties  
different in terms of  
nutrition and processing?**

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# Oats Flakes & Cut Groats

## Oat Flakes

- Oat flakes = **Quaker's Old Fashioned Oats, Instant Oatmeal** and **Quick Cooking Oats**
- Rolling groats into flakes help reduce cooking time to minutes
- Process includes steaming the groats and passing them between two large flaking or pressing rolls

## Cut Groats

- Cut crosswise to smaller pieces to become **Steel Cut Oats**
- Using specialized machines called “cutters”



*Each variety of Quaker Oats – instant, quick, old fashioned and steel cut – are 100% whole grain, and ounce per ounce, they all provide similar amounts of fiber, vitamins and minerals*

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# Quaker's Journey to Gluten Free

- Developed by using innovative technologies to sort and clean oats
- Even though oats are inherently gluten free, stray gluten containing grains may make their way into oats



Our mechanical and optical sorting system aggressively seeks out and removes gluten-containing grains based on length, density and color in a dedicated cleaning house for gluten free products.



We implement testing protocols across a variety of checkpoints during the milling process to verify our high-quality oats meet FDA's gluten free standards while maintaining Quaker's standards for quality, taste, and texture.



During the milling process, dedicated cutting and flaking equipment is used.



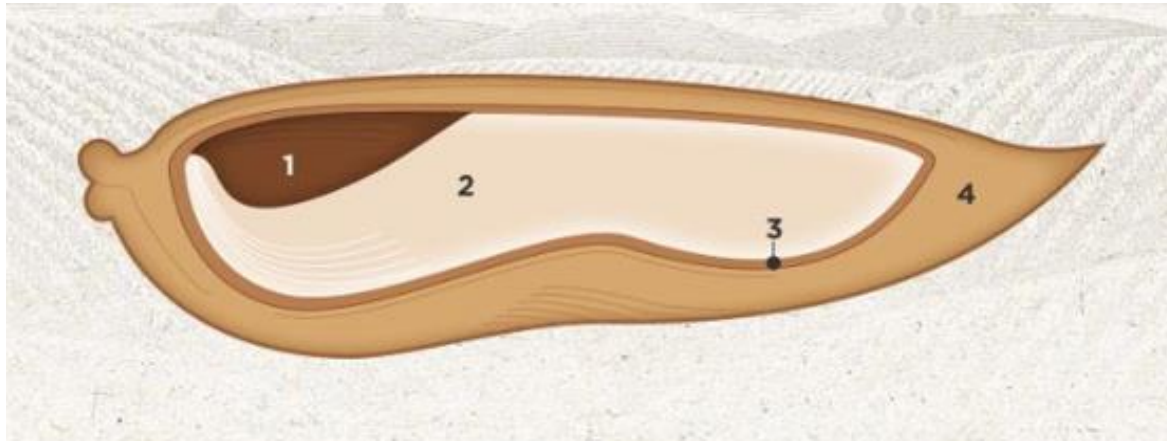
Any and all ingredients that are added during packaging are validated to be gluten free.



The packaging line is thoroughly cleaned with a validated procedure to prevent cross-contamination.

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# Step into the Science



## 1. GERM

The heart of the grain and its source for new growth, the germ has nutrients like B vitamins and poly- and monosaturated fats.

## 2. ENDOSPERM

The largest portion of the kernel, the endosperm contains complex carbohydrates for energy.

## 3. BRAN

The courage outer layer of the kernel, the bran, is multi-layered and edible. It contains soluble fiber beta-glucan and avenanthramides to help support heart health.\*

## 4. HULL

The fibrous protective cover surrounding the kernel, the hull is inedible, removed during milling.

\*3 grams of soluble fiber from oatmeal daily in a diet low in saturated fat and cholesterol may reduce the risk of heart disease.

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# Science of Oats: Cardiovascular Health

## Cholesterol

- Research suggests that the soluble fiber found in oats, beta-glucan helps lower blood cholesterol through more than one mechanism (1-3).
  - Three grams of soluble fiber from oatmeal daily in a diet low in saturated fat and cholesterol may reduce the risk of heart disease.
  - Beta-glucan triggers the liver to pull LDL cholesterol from the blood stream for excretion and binding some of the cholesterol in the digestive tract, preventing it from entering the blood stream.
  - Research suggests there is more than one mechanism by which oats help support heart health. Recent research also suggests this effect is partly due to the ability of beta-glucan prebiotic fiber to increase beneficial bacteria in the gut which may influence cholesterol metabolism. Three grams of soluble fiber from oatmeal can provide this prebiotic effect (4,5).
- A serving of Quaker Old Fashioned Oats provides 2 grams soluble fiber.



# Science of Oats: Blood Pressure

- The role of oats in blood pressure regulation is a growing area of research and still under investigation. Some studies suggest a positive effect of beta-glucan on blood pressure levels.
  - A clinical trial in healthy adults with slightly elevated blood pressure suggested that 8 grams per day of soluble fiber from oat bran reduced total blood pressure by 2.0 mmHg and diastolic blood pressure by 1.0 mmHg compared to baseline. (6)
  - In hypertensive adults, a small pilot study suggested a reduction in blood pressure (7.5 mmHg and 5.5 mmHg decrease in systolic and diastolic, respectively) after consuming 5.5 g of beta-glucan from oat cereal. (7)
  - A 2015 systematic review and meta-analysis of 18 controlled trials suggested an association between diets rich in beta-glucan and lower blood pressure. (8)



# Science of Oats: Satiety

- Oats may promote feelings of satiety due to the viscosity of beta-glucan fiber. (9,10)
- Oatmeal consumption, when compared to ready-to-eat cereals, resulted in significantly greater feelings of fullness, less feelings of hunger and slower gastric emptying, as well as lower calorie consumption at the next meal. (11-15)



# Science of Oats: Weight Management

- As a part of overall healthy lifestyle, the soluble fiber in oatmeal may help support healthy weight management
- Managing a healthy weight is about making sensible choices every day, including getting exercise and being mindful of what you eat—such as including whole grains, fruits and vegetables and lean proteins. Research has also shown that including three grams soluble fiber from oatmeal as part of that daily diet may help. (11, 12)





# Science of Oats: Blood Glucose Management

- Emerging research suggests oats may have an impact on blood glucose management.
  - A randomized control trial of 298 overweight patients with type 2 diabetes found that those given 50g of oats daily had improved postprandial plasma glucose and total cholesterol measurements after 30 days and improved triglyceride and LDL at the 1 year follow up. (20)
  - A meta-analysis study that combined data from 16 independent clinical and observational studies suggested there may be a beneficial effect of oat intake on glucose control and lipid profiles in patients with type 2 diabetes. (21)
  - Another meta-analysis of 10 randomized controlled trials found increased consumption of whole oats and oat bran to be associated with improved markers of glycemic control and insulin sensitivity among individuals with Type 2 diabetes, hyperlipidemia and are overweight. (22)
  - Similarly, a review of existing studies found that oat foods containing at least four grams of beta-glucan may reduce the blood glucose response after a meal in healthy individuals.(23)\*

\*A serving of Quaker Old Fashioned Oats provides 2 grams of soluble fiber

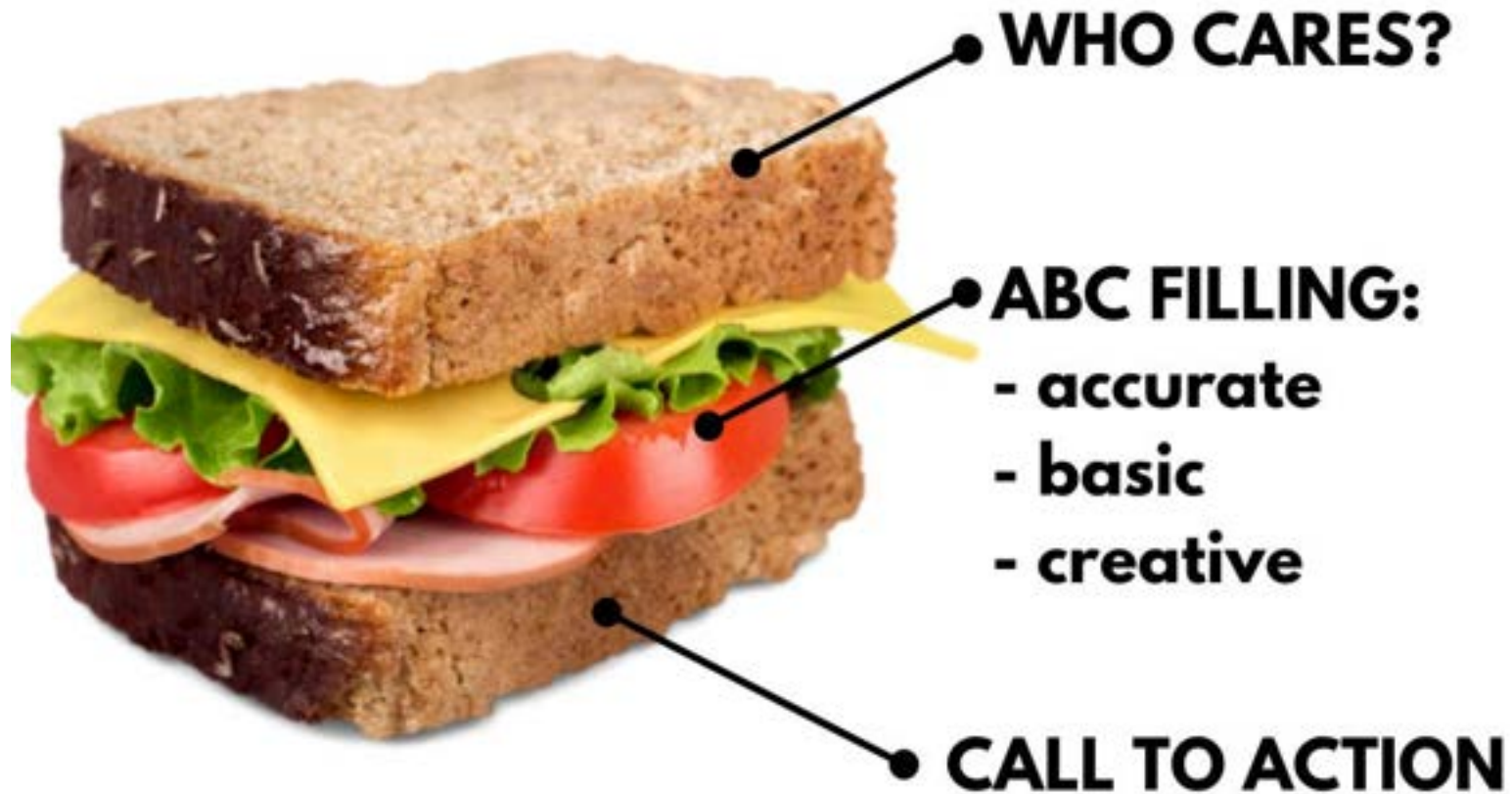
# Oat Nutrition, Trends & Communicating the Science



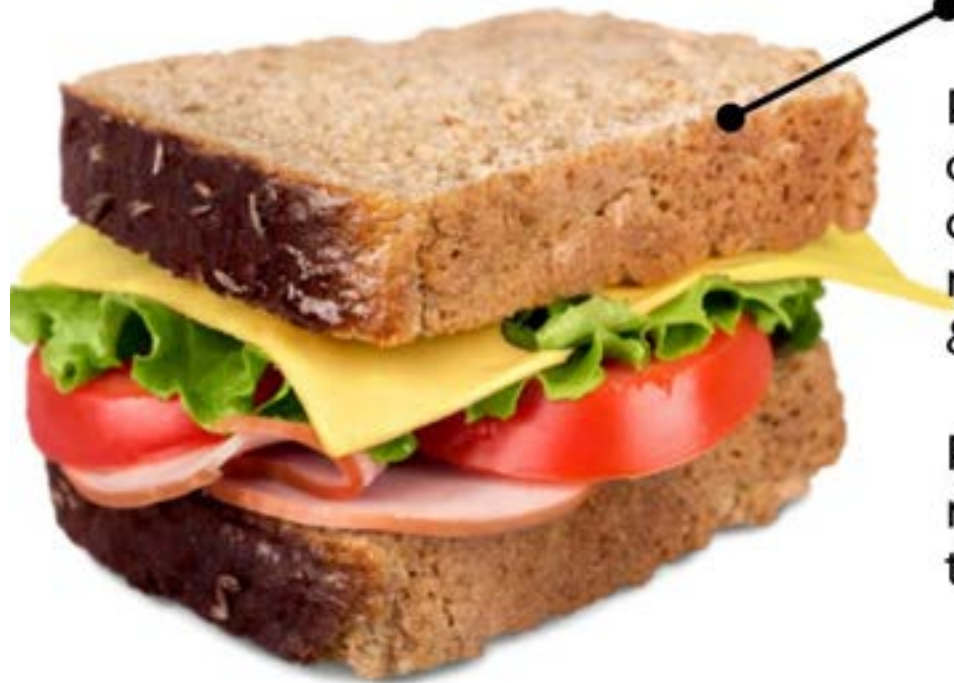
# Dawn Jackson Blatner, RDN, CSSD

- Certificate of Training in Integrative and Functional Nutrition (AND)
- Previous head sports dietitian for the Chicago Cubs for 10 years
- Reality Show Winner, “My Diet Is Better Than Yours”
- Author
  - *The Flexitarian Diet*
  - *The Superfood Swap*
- Advisory board member of SHAPE magazine
- Media appearances: The Today Show and Good Morning America
- Fan of Quaker Oats!

# “Communication Sandwich”



# Oat Similarities & Differences



## WHO CARES?

People have different oat preferences and don't know the nutrition similarities & differences.

Plus, there's misinformation out there.

# Oat Similarities & Differences

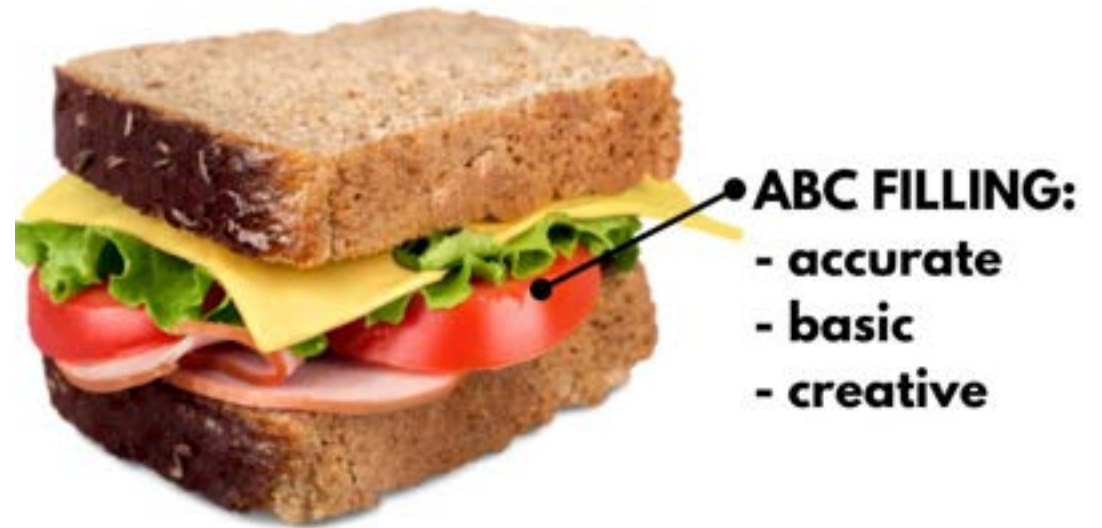
## Similarities

Ounce for ounce, all the oats used in each variety of Quaker Oats – Instant, Quick, Old Fashioned and Steel Cut are:

- 100% whole grain
- a good source of fiber
- contain similar amounts of essential vitamins & minerals

## Differences

- Shape/texture
- Cooking time



# Oat Similarities & Differences

## Oatmeal Cheat Sheet

While the oats are cut differently, per ½ cup serving **THEY ALL ARE:**



Sources of essential vitamins & minerals



100% whole grain



A good source of fiber

### Types of Oats

Instant



Quick



Old Fashioned



Steel Cut



	Instant	Quick	Old Fashioned	Steel Cut
description	thin & finely cut oats	thin oats	rolled oats	cut, not rolled oats
cooking instructions	just add hot water OR microwave 1-2 mins	stovetop 1 min OR microwave 1-2 mins	stovetop 5 mins OR microwave 2-3mins	stovetop 25-30 mins
texture	soft	smooth	firm	chewy
popular pairings	bananas cinnamon 2% OR whole milk	strawberries peanut butter almond milk	bananas raisins 2% or whole milk	blueberries almonds almond milk

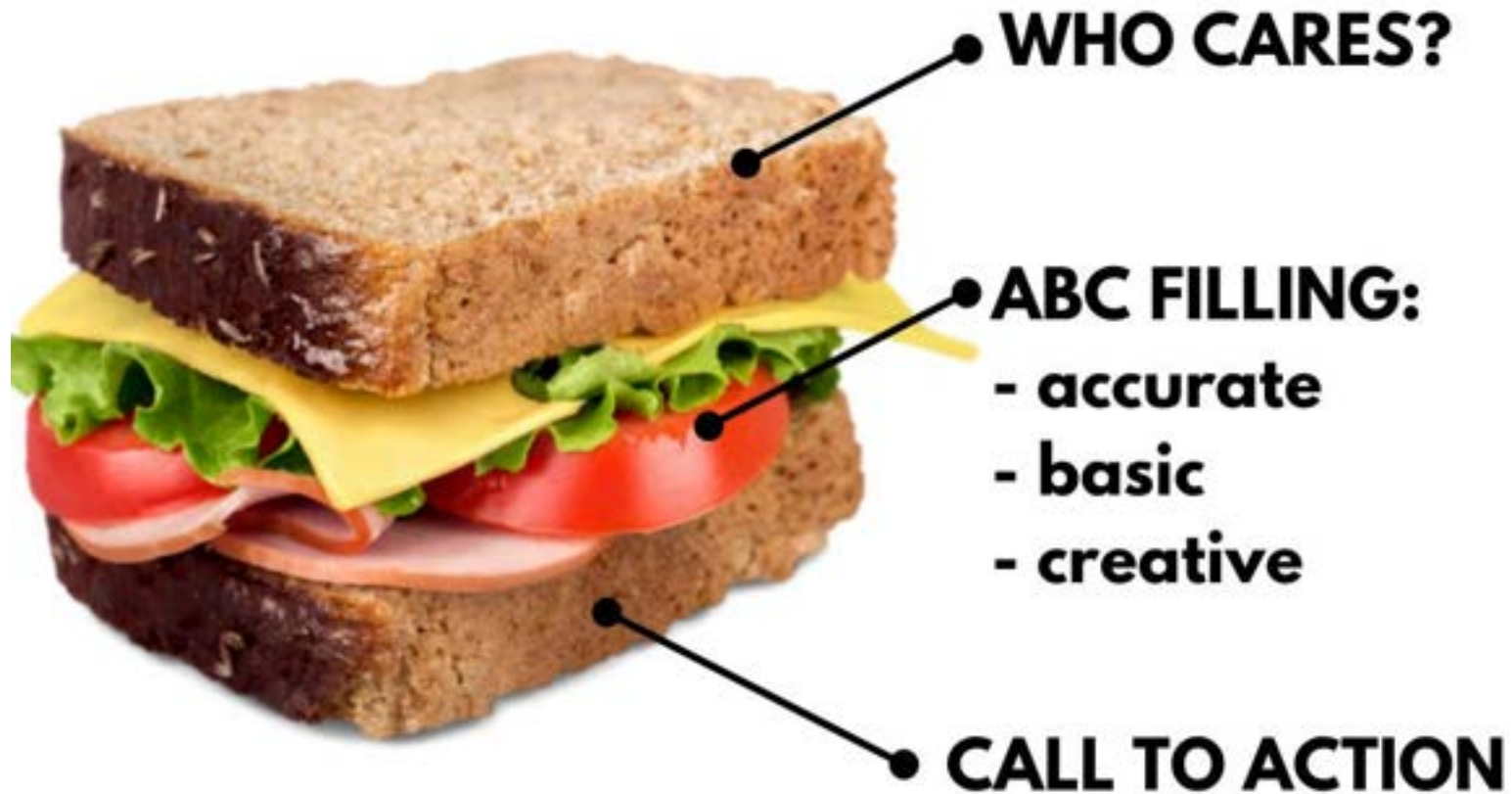
Pairings based on Quaker, December 2017 survey data.

For more **GAZSPIRATION** and recipes visit [QuakerOats.com](http://QuakerOats.com)

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# Oat Nutrition (Sandwich #2)





# Oat Nutrition: Who Cares

## Whole Grain Gap

- 98% of Americans do **not** meet the Dietary Guideline to make half of their grains **whole** grains. (24)

## Fiber Gap

- 90% of women and 97% of men do **not** meet recommended intakes for dietary **fiber**. (25-38 grams fiber/day) (25)

A 2018 survey revealed: 52% of adults **want to increase their fiber** but...

- don't know where to start
- believe that adding fiber will be difficult
- think a high fiber diet will lack taste (26)



# Oat Nutrition: Who Cares

- Oats can help w/ the **whole grain & fiber** gap!
- Quaker Old Fashioned Oats, Quick Oats, Instant Oats and Steel Cut are **whole grain**.
- Raw oats have 4 grams **fiber** per 40 gram uncooked serving.\*\*
- PLUS good source of vitamins B1 (thiamin) + phosphorus + magnesium.
- AND inherently sodium free, cholesterol free, and low in fat and saturated fat.



\*\* One serving of Quaker Old Fashioned Oats (1/2 cup), Quick Oats (1/2 cup) or Steel Cut Oats (1/4 cup) provides 4 grams of fiber per serving; one packet of Quaker Original Instant Oats provides 3 grams per serving. (26,27)



# Oat Nutrition: ABC Filling



**Heart**

+



**Digestion**

+



**Energy**



## Heart Health

- In addition to **cholesterol and blood pressure** benefits that were discussed before, the relationship between oatmeal and heart health was **the first food-specific health claim** approved by the U.S. Food and Drug Administration.
- **The claim:** “Soluble fiber from oatmeal as a daily part of a diet low in saturated fat and cholesterol may reduce the risk of heart disease. Three grams daily are needed for this benefit.”

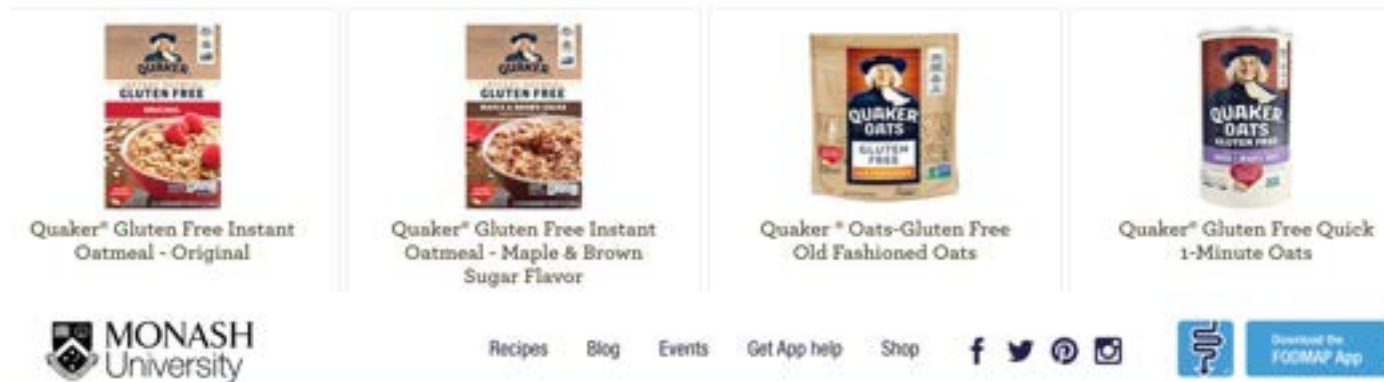
Soluble Fiber: 2 grams in *uncooked* 1/2 cup Quaker Quick Oats, 1/2 cup Old Fashioned Oats, 1/4 cup Steel Cut Oats and 1 gram in Original Instant Oatmeal packet.





## Digestion

- Dietary **fiber** from whole grains, like oats, helps support a healthy **digestive system**.
- Fiber may be harder to get for people following a gluten-free or low FODMAP diet. Quaker has specially marked packages of **gluten-free oats** and select products are **certified as a low FODMAP food** by Monash University.





## Energy

- Findings from a recent randomized, cross-over study showed that oats deliver a **slowly absorbed supply of energy** to the body over a 2-3-hour period. (29)
- This may, in part, be due to **beta-glucan**, the soluble fiber in oatmeal, which may help slow digestion, and the release of glucose into the blood stream, providing a slower supply of energy.

# Oat Nutrition: CTA

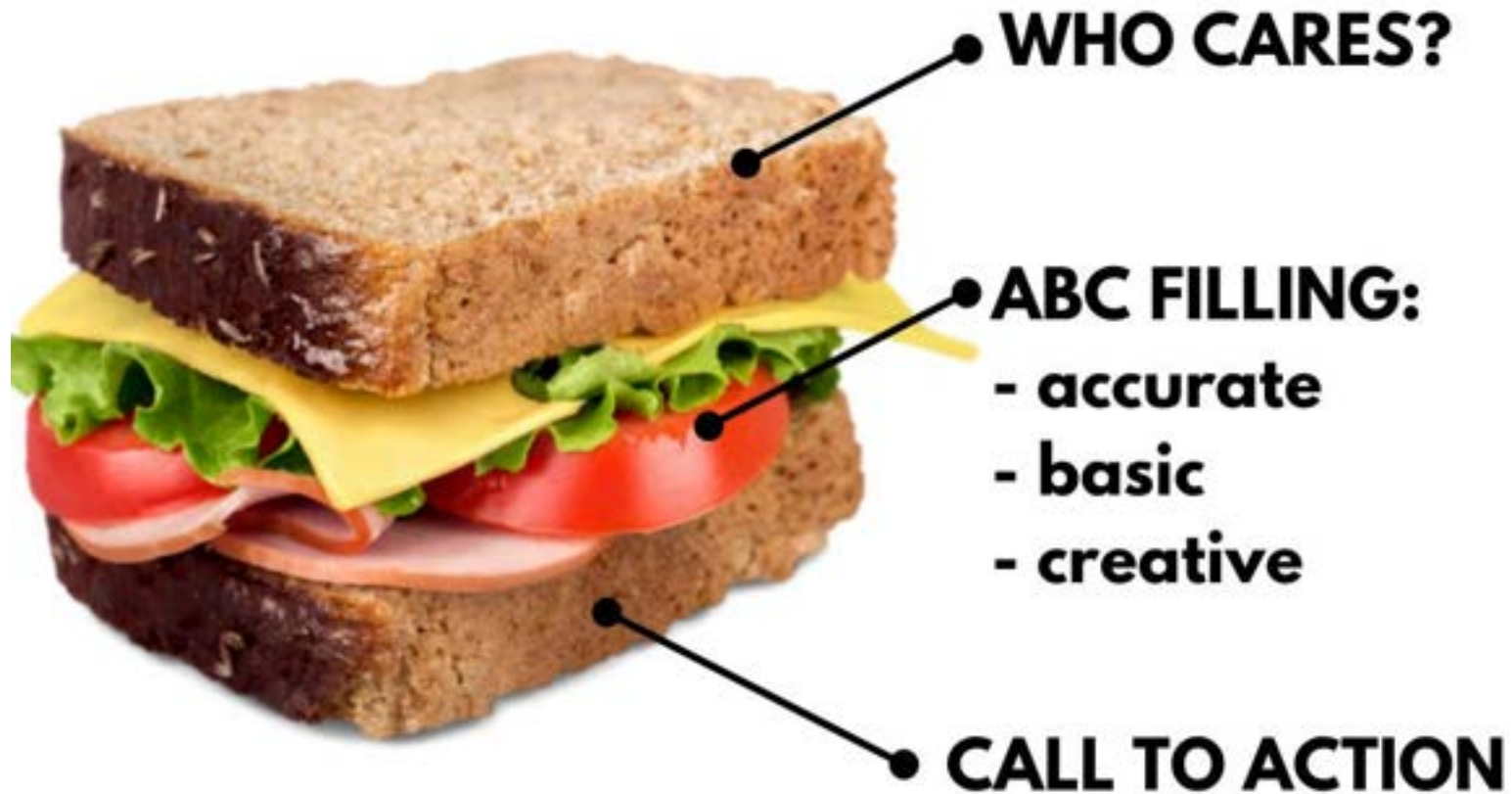
**The POW!er of Oats!**

A 1/2 cup (40g) uncooked oats (instant\*, quick, Old Fashioned, or steel cut) is...

- 100% whole grain
- good source of fiber to help support healthy digestion
- unique balance of insoluble and soluble fiber
- naturally low in fat and sodium
- good source of vitamin B1, magnesium, phosphorus, manganese
- versatile and tasty

For more information on the **Power of Oats** visit [QuakerOats.com](http://QuakerOats.com)  
This graphic is sponsored by The Quaker Oats Company, but the design & opinions are my own.  
\*A packet of instant oats provides between 29-31 grams of oats, depending on the flavor.

# Oat Trends (Sandwich #3)





# Audience Question

What's your favorite -or- most creative way to eat/use oats?

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# TikTok Famous Baked Oats (*Old Fashioned or Quick Oats*)

# Add Protein to Oats

*(Any oat type)*

## OATMEAL PLUS

@djblatner



+ Protein Powder



+ Eggs



+ Nut Butter



+ Milk



+ Greek Yogurt

# Smoothies & Oat Bites

*(Old Fashioned, Quick, Instant Oats)*



# Flour Swap

*(Old Fashioned or Quick Oats)*



# Rice Swap

*(Steel Cut Oats)*



Steel Cut Oatmeal Risotto with Prawns



Steel Cut Oat Vegan Paella



Roasted Cauliflower & Oatmeal Soup with Turmeric

# Breadcrumbs Swap

*(Old Fashioned, Quick, Instant Oats)*



Spicy Oat Crusted Chicken with Sunshine Salsa



Oatmeal Veggie Burgers



Veggie Meatball Kabobs

# Meal Prep

*(Old Fashioned Oats)*



Overnight Oats 3 ways



# Keeping Up with Trends

- Clients, friends, family questions
- Social media like buzzfeed (Tasty & Goodful) and celebs
- Popular newsletters like mindbodygreen and Well + Good
- Professional sources like Nutrition & Dietetics SmartBrief daily emails

# Oat Resources



- **Research + Recipes + Client Handouts + Continuing Professional Education**
- One of my favorite resources: “Quaker Emerging Science PDF”

**Thank You!**

**Questions?**

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