

# OATS



## Oats

Oats (*Avena sativa*) is a widely consumed grain product as a rolled whole oat or ground into flour. It delivers a healthy source of energy paired with phenolic compounds, essential nutrients, soluble and insoluble fibers. Intake of soluble fibers from grain oats is been linked to reduced risk of cardiovascular disease (CVD). Top oat varieties include increased levels of phytochemicals and provide beneficial fibers. Eating oats and other whole grains improves your food quality score (FQS).



## Phytoactives

### Fiber

Promote healthy cholesterol levels, promote cardiovascular health, and support healthy bowel function

**Beta-glucan** The main soluble fiber in oats connected to reduced CVD risk (56 mcg/g)\*\*

**Arabinoxylan<sup>2</sup>**  
**Type 1 Resistant Starch<sup>3</sup>**

### Lignans

Large plant polyphenolic compounds that bypass human digestion, feed gut bacteria, and provide antioxidant activity

**Syringaresinol** (3.5 mcg/100g)\* **Secoisolariciresinol** (0.1 mcg/100g)\*

**Lariciresinol** (1.8 mcg/100g)\*

**Matairesinol** (0.7 mcg/100g)\*

**Medioresinol** (0.4 mcg/100g)\*

**Pinoresinol** (0.08 mcg/100g)\*

### Phenolic Acids

Phytoactive compounds that promote antioxidant activity and promote vascular health

**4-Hydroxybenzoic Acid** (4.5 mcg/g)\*

**p-Coumaric Acid** (1.6 mcg/100g)\*

**Vanillic Acid** (2.7 mcg/100g)\*

**Hydroxybenzaldehyde** (1.2 mcg/100g)\*

**Ferulic Acid** (1.9 mcg/100g)\*

**Sinapic Acid** (0.4 mcg/100g)\*

### Avenanthramides

Phenolic acids exclusive to oats with antioxidant and anti-inflammatory activities and a bitter perception

**Avenanthramide C** (49.24 mcg/g)\*\*

**Avenanthramide B** (31.85 mcg/g)\*\*

**Avenanthramide A** (31.67 mcg/g)\*\*

**Avenanthramide E** (0.15 mcg/g)\*\*

### Saponins

Exclusive saponins to oats emerging as having bioactivity against growth of cancer cells in vitro

**Avenacoside A<sup>4</sup>**

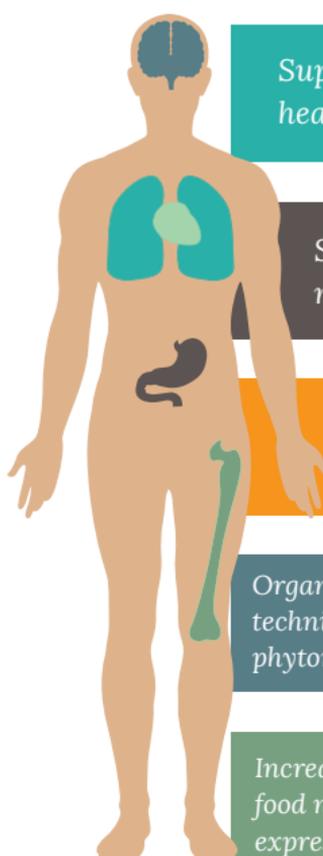
**Avenacoside B<sup>4</sup>**

### Flavanones

Colorless flavonoid compounds with antioxidant activity

**Neohesperidin** (6.2 mcg/g)\*\*

## What is the Whole Food Matrix?



Supports balance immune modulation for healthy inflammation response.

Supports the gut microflora and a healthy metabolic fingerprint of the gut.

Benefits of nutrients food matrix enhances bioavailability by up to 60%.

Organic and adaptive regenerative farming techniques delivers nutrient dense source of key phytonutrients and helps balance healthy lifestyles.

Increased intake of vegetables and fruits in whole food nutrition influences individual epigenetic expression of our health potential.



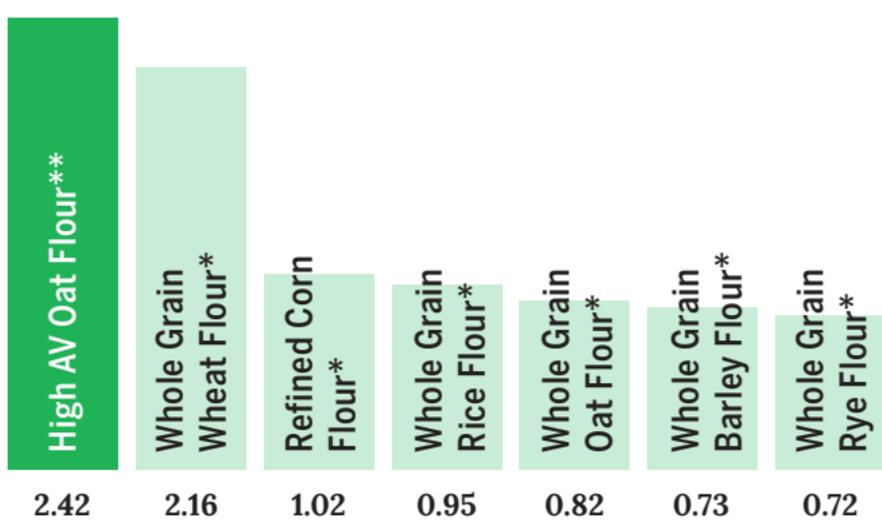
## Gallic Acid Equivalence

### What is GAE?

GAE, or “gallic acid equivalence,” indicates levels of important phytoactives available in the plant and extracts. GAE is derived by comparing to the gallic acid reference standard, a simple phenolic substance. Studies have shown that phytoactives in plants contribute to their beneficial effect on development of chronic diseases.

## Total Phenolic Concentration

Measured: Total Phenolics as Gallic Acid Equivalence (mg/g)



\* Data is mean values from Phenol-Explorer Database<sup>1</sup>

\*\* Data on file with WholisticMatters

Values subject to change based on strain and experimental methods

## Key Nutrients

Percentages shown as %DV per 30g of oats

### Manganese

Essential mineral incorporated in enzymes that metabolize macronutrients; helps protect mitochondria from oxidation and forms both collagen and cartilage.

**42%**

### Biotin

B vitamin necessary for energy metabolism, histone modification, gene regulation, and cell signaling.

**25%**

### Copper

Essential mineral required for proper usage of iron in the body, neurotransmissions, and maturation of connective tissues.

**16%**

### Fiber

Promote healthy cholesterol levels, promote cardiovascular health, and support healthy bowel function.

**13%**

### Phosphorus

A mineral component of bones and teeth, also involved in protein formation, cell repair, contractions, nerve signaling, and a part of ATP molecules that store energy in the body.

**10%**

## Other Nutrients

(in order of %DV per 30g oats)

- |              |                                     |
|--------------|-------------------------------------|
| Protein      | Pantothenic acid (Vitamin B5)       |
| Choline      | Vitamin B6 (Pyridoxal 5'-phosphate) |
| Magnesium    | Vitamin E (Alpha-tocopherol)        |
| Lipids       | Vitamin K (Phylloquinone)           |
| Zinc         | Folate (Vitamin B9)                 |
| Carbohydrate | Calcium                             |
| Potassium    |                                     |
| Selenium     |                                     |



**WholisticMatters™**  
POWERED BY: STANDARD PROCESS INC.

We are dedicated to advancing the latest insights and information available in nutrition therapy and clinical nutrition and to presenting only the most balanced, credible, and reliable clinical nutrition and science available.

[WholisticMatters.com](https://www.wholisticmatters.com)

©2020 Standard Process Inc. All rights reserved. L00073 03/20

## References

- Rothwell, J.A., et al., Phenol-Explorer 3.0: a major update of the Phenol-Explorer database to incorporate data on the effects of food processing on polyphenol content. Database, 2013. 2013: p. bat070-bat070.
- Tian, L., H. Gruppen, and H.A. Schols, Characterization of (Glucurono) arabinoxylans from oat using enzymatic fingerprinting. Vol. 63. 2015.
- Morales-Polanco, E., Campos-Vega, R., Gaytan-Martinez, M., Enriquez, L. G., & Loarca-Pina, G. (2017). Functional and textural properties of a dehulled oat (Avena Sativa L.) and pea (Pisum sativum) protein isolate cracker. LWT, 86, 418-423. Doi:https://doi.org/10.1016/j.lwt.2017.08.015.
- Gunther-Jordanland K., Dawid, C., Dietz, M., & Hofmann, T. (2016) Key Phytochemicals Contributing to the Bitter Off-Taste of Oat (Avena Sativa L.). Journal of Agricultural and Food Chemistry, 64(51), 9639-9652. Doi:10.1021/acd.jafc.6b04995