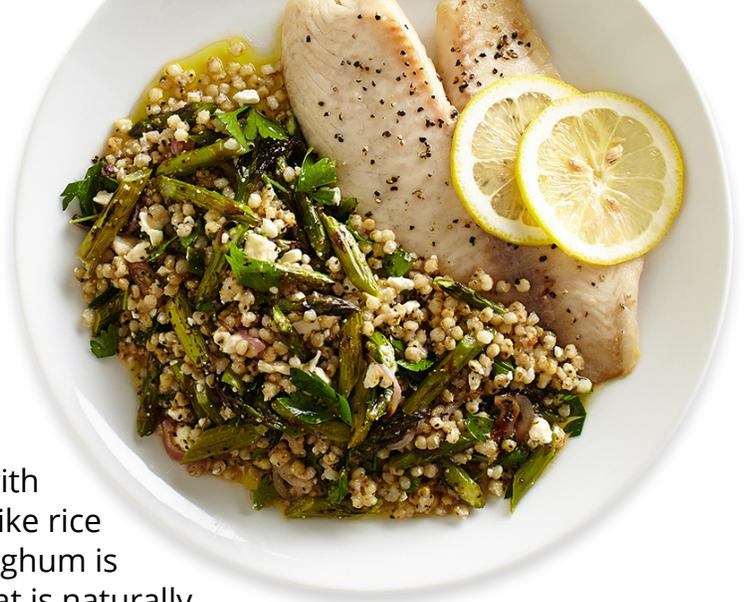


SORGHUM & DIGESTIVE HEALTH



Sorghum is a whole grain grown in America with many health benefits. The grain can be used like rice or quinoa to prepare any meal of the day. Sorghum is a nutrient-rich, plant-based protein source that is naturally gluten free and high in antioxidants. Plus, sorghum helps patients stay fuller longer while helping to promote digestive health. Discover the role sorghum plays in fiber, prebiotics and digestive health.

SORGHUM & FIBER

It is estimated 90 percent of Americans do not consume enough fiber¹. Dietary fiber intake promotes digestive health and is inversely associated with the risk of chronic disease including coronary heart disease, stroke, hypertension, diabetes, obesity and metabolic syndrome². Sorghum is a naturally gluten-free grain with 6.7 grams of fiber per 100 grams³. Plus, sorghum is an excellent source of energy, containing approximately 75 percent complex carbohydrates in the form of fiber, starches and resistant starches.

Digestive health is a popular conversation with patients and clients. The term fiber is used widely by medical and nutrition experts, and researchers are exploring the solubility, fermentability and viscosity of fiber types. Ensuring patients are consuming a variety of fiber types is important. Whole grain sorghum as part of a healthy dietary pattern provides soluble, fermentable and viscous fiber, plus has prebiotic potential to promote a healthy gut microbiota.

PREBIOTICS 101

Prebiotics are non-digestible ingredients, and when consumed, provide a beneficial gut environment for good bacteria to thrive. Not until recently have researchers begun to identify the particular role of prebiotic-type components, fibers and their health benefits. Forms of dietary fiber are the most common prebiotics found in the diet. These dietary fibers resist digestion in the small intestine and reach the large intestine where the majority of microbiota exists. The composition of the diet can alter and change the microbiota. Also, characteristics such as solubility, fermentability and viscosity are important determinants of how the prebiotic compounds will behave in the body.

Recent studies have shown the potential prebiotic activity of sorghum in the form of polyphenols found in the bran of sorghum grain^{4,5}. Researchers identified 3-deoxyanthocyanins (black sorghum) and condensed tannins (sumac sorghum) in several animal studies that were responsible for beneficial changes in the microbiota. Further, their research unveiled these changes may help protect against the development of inflammation and chronic diseases such as obesity and type 2 diabetes⁵ in humans. This research is a good benchmark for the next step of designing and completing further clinical studies with human populations.

DIGESTIVE HEALTH & THE CONSUMER

Digestive health is a concern for people of all ages. The digestive system is dynamic and interacts closely with many other systems in the body. When dietary fibers, as well as resistant starch and polyphenols in the diet, resist digestion in the small intestine and reach the colon, they become available for use by the microbiota to promote good bacteria and suppress the growth of bad bacteria. This combination of factors, including prebiotics in our dietary pattern has a cumulative effect on the microbiota in the colon to enhance a healthy digestive ecosystem.

KEY TAKEAWAYS

- Sorghum is a naturally gluten-free grain with 6.7 grams of fiber per 100 grams.
- Consuming a variety of fibers with different solubility, fermentability and viscosity, including sorghum, supports digestive health.
- Recent studies have shown the potential prebiotic activity of sorghum in the form of polyphenols found in the bran of sorghum grain.
- Emerging research suggests prebiotic-rich sorghum can have a beneficial effect on the gut microbiota and may help protect against the development of inflammation and chronic diseases such as obesity and type 2 diabetes.

Quick facts

Fiber plays a vital role in digestive health, and sorghum is a good source to help achieve daily requirements. In addition to fiber, did you know sorghum is full of many other nutrients that can help your patients stay healthy?

- Protein provides the building blocks for bone, muscle, skin and enzyme development
- Iron strengthens the immune system and oxygen-carrying capacity in the blood
- Vitamin B6 is integral in synthesizing antibodies and enhancing nerve function
- Niacin provides improved blood circulation
- Magnesium aids in calcium absorption and body temperature regulation
- Phosphorus helps form healthy bones

References

¹Bernstein AM, et al. *Nutrients* 2013;5:1471-1487.

²Anderson JW, et al. *Nutr Rev* 2009;67:188-205.

³USDA National Nutrient Database for Standard Reference. 2016:Release 28.

⁴Ritchie LE, et al. *FEMS Microbiology Ecology* 2015;91(3):1-11.

⁵Lloyd SK, et al. *The FASEB Journal* 2016;30:Supp 683.4.

*Information retrieved from *Jane Dummer- Release 2016*

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