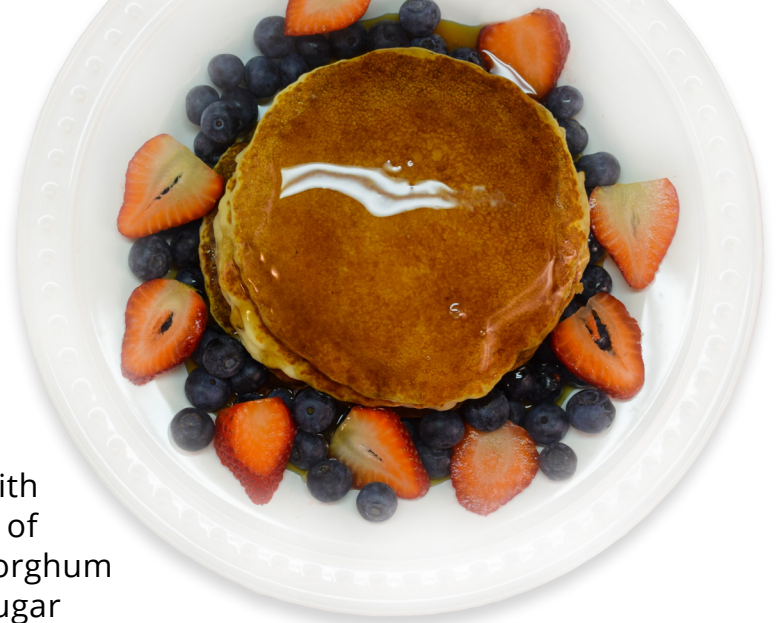


SORGHUM

SAFE FOR THOSE WITH CELIAC DISEASE & GLUTEN SENSITIVITY



Sorghum is a whole grain grown in America with many health benefits. In addition to being full of healthy nutrients to help fuel your patients, sorghum is naturally gluten free and promotes blood sugar balance and allows for slower digestion. Plus, the grain can be milled into flour perfect for those who have celiac disease or a non-celiac gluten sensitivity. Discover more about sorghum's role in celiac disease and non-celiac gluten sensitivity.

CELIAC DISEASE

One in 133 Americans has celiac disease¹ and is the most common auto immune disease. Celiac disease is a multi-system autoimmune disorder triggered by ingestion of gluten, which is a protein found in wheat, rye, and barley and triticale, in genetically susceptible individuals. An immune reaction can occur with exposure to less than one crumb of a gluten-containing food. With this in mind, the FDA regulates the "gluten-free" claim on packaged products sold in the United States.

Patients with celiac disease are at risk for nutritional deficiencies and development of other autoimmune disorders. Individuals can have a variety of intestinal and non-intestinal symptoms. The diagnosis of celiac disease is confirmed by a blood test and an intestinal biopsy. Currently, the only treatment is a permanent gluten-free diet.

NON-CELIAC GLUTEN SENSITIVITY

Non-celiac gluten sensitivity (NCGS), sometimes referred to as gluten-intolerance, is frequently a self-diagnosis, making the true prevalence difficult to establish. There are currently no biomarkers for this disorder. The symptoms of NCGS are highly variable and include bloating, abdominal pain and diarrhea as well as symptoms mimicking irritable bowel syndrome. Other intestinal manifestations include nausea, acid reflux, mouth ulcers and constipation².

Individuals may have non-intestinal symptoms, such as feeling generally unwell, fatigue, headaches, foggy mind, numbness, joint pains or skin rash. A person may have one or more symptoms. The clinical symptoms of NCGS and celiac disease overlap, making it difficult to distinguish the two disorders on the basis of symptoms alone. Therefore, the diagnosis of NCGS can only be established by excluding celiac disease².

SORGHUM & A GLUTEN-FREE DIET

While sorghum has long been thought safe for people with celiac disease, the first clinical testing was conducted in 2007 by a group of researchers in Italy³. First, the research team conducted laboratory tests. After those tests established the safety, they fed eight celiac participants

sorghum-derived food products for five days. The patients experienced no symptoms and the level of anti-transglutaminase antibodies was unmodified at the end of the five-day period. Sorghum was confirmed to be suitable for gluten-free diets.

A strict gluten-free diet can be very challenging to follow. In addition, there are concerns about the nutritional adequacy of gluten-free options and products, as they can be low in fiber, iron and B vitamins and high in fat and sugar. Sorghum is a naturally gluten-free, nutritious whole grain that is low in fat and high in fiber, B vitamins and antioxidants, making it ideal for gluten-free diets. For patients requiring a gluten-free diet, sorghum is a viable option to add variety and flavor to their meal plan. Plus, gluten-free sorghum flour allows patients to enjoy some of their favorite baked goods.

KEY TAKEAWAYS

- One in 133 Americans has celiac disease. Currently, the only treatment for celiac disease is a permanent gluten-free diet.
- The diagnosis of non-celiac gluten sensitivity can only be established by excluding celiac disease.
- Sorghum has been clinically studied and determined safe for individuals with celiac disease.
- Sorghum is a naturally gluten-free, nutritious whole grain that is low in fat and high in fiber, B vitamins and antioxidants, making it ideal for all gluten-free diets.

Quick facts

Sorghum, both grain and flour, are a great solution for your patients with celiac disease or non-celiac gluten sensitivity. Sorghum flour can be found in many all-purpose, gluten-free flour blends at grocery stores and online retailers. Patients can even try their hand at making their own sorghum flour mix. Below is a general baking mix to help your patients get started!

Total time: 5-10 minutes

Yield: 3 Cups

Ingredients:

1/3 cup sorghum flour

2/3 cup garfava bean flour

1 cup cornstarch

1 cup tapioca starch/flour

Directions: Whisk together until blended well. This general baking mix can be used in your favorite baked goods the same way all-purpose wheat flour is used. Check out our recipe library for tasty baked-good recipes!

Tip: To store your general baking mix, cover tightly and place in a dark, dry place.

References

¹Fasano A, et al. Arch Intern Med 2003; 163(3): 286-92.

²Luca E, et al. Nutrients. 2016; 8(2): 84.

³Ciacchi C, et al. Clin Nutr 2007; 26(6): 799-805.

*Information retrieved from Jane Dummer- Release 2016

*This information has been reviewed by a third-party consultant, Beyond Celiac: www.BeyondCeliac.org

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