



Gluten Free Flours and Their Attributes by Maureen Burke

Garfava, GarbanzoFava Flour, Bean Flour, Light Bean Flour:

This is a high protein and high fiber flour that is made from two beans, garbanzo and fava, which are milled into flour. Beans, being high in protein and fiber, decrease sugar flow to the blood stream, which is beneficial to most diabetics.

One cup of Garfava flour is equivalent to approximately One Cup of whole wheat flour. Garfava Flour can be used to thicken soups, stews, and gravy, and for breads. For thickening, use 3 tsp. of Garfava to one tsp of wheat flour. Source: Authentic Foods.

Note: slowly introduce this into the diet as it could cause gas if too much is used too soon. I like to use it as about 1/3 of the total flour in a recipe. It will add great texture to a bread and the taste is not too heavy.

Millet Flour:

Millet flour bears some resemblance to wheat. One serving, or 1/3 cup contains about four grams of protein (close to wheat). However, millet is superior to wheat in some ways. One serving has “15% of the US Recommended Daily Allowance (RDA) of iron, and is high in B vitamins, magnesium and potassium. It also has 12% of the US RDA of dietary fiber, which can make for a healthy alternative or addition to wheat.”

Millet has a sweet taste. It’s comparable to sorghum but lacks the bitter aftertaste found in sorghum flour. Many times you can cut sugar in recipes when you use millet. “The seeds are also rich in phytochemicals, including Phytic acid, which is believed to lower cholesterol, and Phytate, which is associated with reduced cancer risk.”

*“Millet has an interesting characteristic in that the hulls and seeds contain small amounts of goiterogenic substances that **limit uptake of iodine to the thyroid**. In large amounts these "thyroid function inhibitors" can cause goiter and some researchers feel this may explain, at least in part, the perplexing correlation between millet consumption and goiter incidence in some of the developing countries where millet constitutes a significant part of the diet. In many of these countries another contributing factor may be a lack of sufficient dietary iodine.”*

“Obviously these substances are diminished during the hulling process but there is **definitely controversy concerning the idea that the process of cooking** largely destroys those that are left in the seed itself. Some researchers including Dr. Jeffrey Bland believe that cooking greatly diminishes these substances; others claim that it doesn't and that in fact if millet is cooked and stored in the refrigerator for a week, a practice common in many cultures, these substances will actually increase as much as six fold.”

Other foods that also contain these goiterogenic substances would be; brussel sprouts, broccoli, cabbage, cauliflower, kale, mustard greens, spinach, turnips, rutabagas, cassava, soy beans, peanuts, peaches, and pears. “All of these foods are nutritionally valuable as is millet and this is generally not cause for alarm. A healthy, whole foods based diet containing an abundant variety of foods will ensure that an excess of these goiterogenic compounds is not consumed. **It is important to note that Jeanne Wallace, PhD, CNC, states that for those with hypothyroidism a significant guideline would be to consume three servings a day or less of the foods containing goiterogenic compounds.**” Source: chetday.com

Note: I don't consume millet due to my Hashimotos Thyroiditis.

Brown Rice Flour:

Brown Rice flour is a type of flour made from rice kernels that have been processed to remove the outer hulls, but not the nutritious bran layers covering the kernel. When the kernels are ground into flour, the color is a shade darker than white rice flour and the texture is a bit gritty. For most recipes you can use either brown or white rice flour however, brown rice has a nuttier flavor.

All types of rice flour are high in protein, but brown rice has a higher level of B vitamins, iron, and fiber than white rice flour because the bran is milled with the kernel. Brown rice flour has a pretty high oil content (because of the bran and germ). It can become rancid if stored improperly, store it in the refrigerator where it will keep for about 4 or 5 months.

Note: Mix with other flours when making bread, it tends to make breads and baked goods heavy, so use it in combination with other flours, about 1/3 of total flour.

Potato Flour and Potato Starch:

Potato flour is made from potatoes which have been cooked, dried, and then ground potatoes. Many people don't know that potato starch and potato starch flour are different. Potato starch is only made from the starch of the potato. Potato flour is typically less dense than potato starch. It is higher in calories than wheat flour but has less fat.

Note: The only potato flour that I use is EnerG Pure Potato Starch Flour. It is lighter and does not tend to absorb as much liquid and does not have a heavy potato taste. Use it in combination with other flours for breads or baking. If you use potato starch you will definitely taste the starch in it and will absorb a lot of liquid and make your end product heavy and dense.

Sorghum Flour:

Sorghum is an annual grass plant that is very drought tolerant. It is one of the top cereal crops in the world. Originally from Egypt; the largest producers of sorghum are in Africa, although the crop has spread to southern Asia and the Americas as well. Sweet sorghum, is grown for the manufacture of syrup.

Sorghum flour offers 9.5 g of protein per cup, 15 mg of calcium per serving, (1.5 percent of the recommended dietary allowance based on a 2,000-calorie diet). It has 32 percent of the RDA for iron and 54 percent for magnesium. With 376 mg of potassium, 1 cup of sorghum flour may be considered a good source of this mineral. Sorghum flour provides 25 percent of the RDA for zinc and about 42 percent of the RDA for niacin. Sorghum flour provides 8 g of fiber.

Source: <http://www.livestrong.com/article/318107-sorghum-flour-nutrition>

Note: Sorghum works well in combination with other flours and does not have a strong taste but it can seem a little gritty, so be careful if your child is sensitive to that type of texture. If you use "sweet" sorghum, you may need to cut back on sugar in your recipe.

Tapioca Flour:

Tapioca flour is a starchy white flour that is slightly sweet. It comes from the root of the yucca plant and is used to sweeten baked goods or breads.

Tapioca flour has 100 calories per 1/4 cup serving which is slightly lower than white gluten flour and no fat. It has 26 grams of carbs but no fiber, sugar or protein but has only 2 percent of your daily value of iron. Source: <http://www.livestrong.com/article/269392-tapioca-flour-nutrition/>

Note: Tapioca flour has a nice light texture similar to that of cornstarch. It does not have a lot of nutritional value, works well in combination with other flours.

CornStarch:

Note: We all know what it is, go easy with it or you will end up tasting it in your gravy or bread, mix it with other flours for best results!

Quinoa and Quinoa Flour:

Quinoa flour comes from a plant that is closely related to beets and spinach and is not a true cereal because it does not come from the grass family. The seeds from the plant are used as the grain and you would boil them in water like you would oatmeal.

USDA Nutritional Info: 1 cup of cooked quinoa weighing about 6.5 oz. This consists of about 4.5 oz. of water and 2 oz. of cooked quinoa. A serving of quinoa contains 222 calories. Carbohydrates provide 157 calories, protein accounts for 33 calories and fat makes up the remaining 32 calories. This provides 11.1 percent of the daily value for calories, assuming a diet of 2,000 calories per day. Quinoa contains 39 g of carbohydrates in each serving, this total includes 5 g of dietary fiber, 2 g of sugar, about 8 g of protein, 3.6 g of fat which includes 0.4 g of saturated fat. Quinoa contains no cholesterol.

Quinoa contains 108 mg of magnesium, 2.8 mg of iron, 0.198 mg of thiamin and riboflavin content in a serving of quinoa is 0.204 mg, or about 8 percent of the daily value.

Notes: This is a great GF grain and flour, but I have a cross reaction to it, so I don't use it in my kitchen.

Teff Flour:

Teff grain is actually the seed of an Ethiopian grass. It works well when the raw unprocessed grain is put into baked goods to add flavor, nutrients and texture. It is also ground into flour form and can be used to thicken soups and gravies or to be cooked as porridge. It has a nutty flavor.

One cup of uncooked teff provides five B-complex vitamins and has 47 percent of the RDI for B-6, 50 percent for thiamine, 31 percent for riboflavin, 32 percent for niacin and 18 percent for pantothenic acid. It also has 1 percent of the RDI for vitamin E and 5 percent of the recommended daily intake for vitamin K. The percentages are based on a 2,000-calorie diet.

Manganese is 892 percent of RDI. It also has 35 percent of the RDI for calcium, 82 percent for iron, 89 percent for magnesium, 83 percent for phosphorous, 18 percent for potassium, 1 percent for sodium, 47 percent for zinc, 78 percent for copper and 12 percent for selenium. The amino acid content is sufficient to produce 51 percent of the RDI for protein. Fiber = 62 percent of the RDI. In addition, omega-3 fatty acids, are present and the raw grain has 7 percent of the RDI for fat.

Source: <http://www.livestrong.com/article/543343-nutritional-value-of-teff-grain/>

Amaranth Flour:

Has strong flavor and increases the browning of gluten free baked goods. Using a couple of tablespoons works nicely. If baking bread, use 1/4 cup in a 3 cup flour recipe. Amaranth flour contains 4 grams of protein per 1/4 cup. Eating raw amaranth grains or flour can prevent the body from absorbing nutrients, according to versagrains.com. Amaranth should always be cooked before eating.

Buck Wheat Flour: *Is not a wheat flour, it is actually a fruit!*

It tastes similar to wheat, high in protein and contains 8 essential amino acids. 1 to 1 1/4 cups is all you need in a GF bread and use much less in cakes and muffins. Buckwheat flour contains 5 grams of protein per 1/4 cup.

Montina Flour: (Montina Pure Baking Supplement).

Has a slight nutty flavor, but is not a nut and is milled from Indian grass. It is heavy, use small amount if adding to other gluten free flour and starch to increase protein and nutrition. Montina Pure Baking Supplement contains 17 grams of protein per 2/3 cup.

Chia Flour: (Salba)

Has high protein content and known as a super food. Does not need to be ground in order to be digested and can be used like you would use flaxseed meal. Use 1/4 cup in a 3 cup flour bread mix. Introduce it slowly into your diet as it can be hard on the digestive tract. A 1 oz. serving of chia seeds contain 4 grams of protein. Can be gritty, if child is ASD, texture may be an issue.

Flaxseed Meal: (comes in oil and other forms)

There is a lot of discussion about whether or not flaxseed meal is safe to use in gluten free baked goods. Many articles state that when heated, flax seed oil creates carcinogens (cancer causing agents). Flax seeds must be ground into a meal in order to be digestible. Two tablespoons of flaxseed meal contains 3 grams of protein. Do your own research and decide if you would like to use this. Can be gritty, if child is ASD, texture may be an issue.

Sources: glutenfreerecipebox.com, www.livestrong.com

GF Oats: *Oats have many great attributes but I react to oats, even if they are certified GF Oats. I do not allow oats in my facility. Currently, the CSA (Celiac Sprue Association) will not certify a facility as being Gluten Free if they have oats in the facility! I do not recommend re-introducing any oats into a diet until the child or adult has been recovered for at least one year.*

Specific Carbohydrate Diet and Nut Flours:

Notes: I have had many requests to supply breads for those on the SCD Diet, which I believe has many positive attributes. However, I cannot make products for the SCD Diet in my facility as it would require introducing a variety of nut flours into my facility. Working with any flour leaves fine particulates in the air and all over every surface. That is why I am in a completely gluten free facility. I get sick if I walk into a kitchen that has gluten flour in the air. It would be impossible to keep the fine flour dust off everything. I am not willing to take a chance on cross contaminating a child or an adult who may have an anaphylactic reaction to nuts and nut flours.

The only way I would be willing to introduce any products containing nut flour is if I were to build a completely separate facility along with completely separate equipment to prepare these items in. (it would not be allowed to have shared duct work with my current facility)

Notes:

Ultimate Life's Birch Sugar (xylitol) substitutes cup for cup with white sugar and works well in baking. However, it can be hard on the stomach and cause some gas if someone is sensitive to xylitol, so I do not suggest using it in an item that is mostly sugar, for example, don't use it to substitute sugar in a frosting mix. Also, the texture is rough and more like a salt, to make it fine, run it through your food processor.

Stevia takes some practice, it is very concentrated so be careful, many adjustments are needed in a baking recipe.

Agave works well, many adjustments may be needed in a baking recipe, it can burn, adjust your oven temperature down 25 degrees for regular oven and 50 degrees for a convection oven.

Breads, Yeast and Sugar-

Breads need Protein, Yeast and Sugar to rise.

-Gluten free flours are free of the protein, "Gluten".

-Don't be surprised if your GFCSF breads don't rise with sugar substitutes in them. You can try adding some GF baking powder to help with the rise.

Hints:

- try activating your yeast with organic sugar or brown sugar and then substituting the remainder of sugar in the recipe with a sugar replacement, you may still have a limited rise.

- try substituting 1/3 of your flour mix with a flour that contains more protein, ie: Garfava Flour (if legumes are not an issue for your child).

Flours, Oats, Peanuts and Lunchmeats-

EnerG Brand- Guaranteed Gluten Free and Facility is completely Gluten Free and has been for 50 years. All Flours, Potato Starch Flour and Egg Replacer are the best that I have found and I have been using their products since the 1990s! However, they don't make all of the flours that you may need. I use EnerG Brand Flours wherever I can. Their standard is less than 5ppm for gluten!

Bob's Red Mill- Guaranteed GF and processed in a dedicated GF Facility with many choices, millet, garfava, etc. Standard is 19ppm or less.

Oats- There are still studies being done on oats, I react to them, even the brands that are "GF Oats", I don't allow oats in my facility. I suggest you don't introduce into diet until recovered for at least 1 year.

Peanuts- I don't allow peanuts or peanut flour or peanut oil in my facility due to the severity of reactions that those who are allergic experience.

Lunch Meat- Read labels. Try Dietz and Watson (Certified GF to 5ppm), their website addresses Gluten, Casein and Soy!

Many Celiacs cross react to other GF flours and grains, I cross react to Quinoa, Oats, Buckwheat, etc.....

Many Celiacs also are Casein Intolerant! If you are sticking to a clean GF Diet and still having issues make sure all dairy is removed, it hides in many forms, if not better, have your doctor test you for casein intolerance.

The number one cross reactor for Celiacs is Coffee—the protein in coffee!

One Dish Cuisine is completely Gluten Free and Certified Gluten Free by the Celiac Sprue Association (to 5ppm) and our facility is also completely peanut free.

One Dish Cuisine Café, Deli & Bakery

8001 Hillsborough Road, Taylor Village Center

Ellicott City, MD 21043

443-759-6344

www.onedishcuisine.com www.facebook.com/onedishcuisine