



Sprouts' Short Guide to Gluten Free Baking

This guide has been prepared by Sprouts, your friendly local cafe/grocery store in SUB 66 at UBC. Be sure to check out our website, www.ubcsprouts.ca, for more resources, plus information about upcoming workshops and volunteer opportunities, and come by for organic, (gluten free!) soup, Monday-Friday from 10am – 4pm.

Gluten – what is it and what is its role in baking?

Gluten is a protein found in wheat, rye, barley, spelt, and kamut, as well as the germ or bran of any of these grains. It is found in the obvious food items such as bread, pastries, cereals, pasta, etc., as well as in beer/ale/lager (though not in any hard alcohols, as the distillation process eliminates gluten, and not in wine or ciders). It can also be evident in trace amounts in malt extract/flavouring, caramel flavour, and unidentified “food starches.”

Oats, though now generally recognized to be gluten free in pure form, are often cross-contaminated with gluten containing grains during production and processing. For this reason, people with acute gluten sensitivities (such as celiac disease) are advised to use certified gluten free (GF) oats, which are grown and processed in gluten free areas and batch tested to ensure that they are free of any contamination. Many specialty stores in Vancouver sell GF oats (Capers, Choices, and many smaller grocers). They can also be ordered online, try <http://www.onlyoats.ca/index> .

Gluten plays an integral role in creating the texture, crumb, and flavour of conventional baked goods. Protein in the flour, known as gluten, combines with water to produce an elastic and porous web capable of trapping gas bubbles released by the action of a leavening agent. See this website for a discussion of gluten in baked goods: http://www.baking911.com/howto/how_baking_works.htm

Gluten Free Baking

Challenges : Without gluten to bind the baked good, add texture, flavour, and elasticity, GF batters and doughs feel and behave much differently than their conventional cousins, and GF baked goods can taste and feel a lot different, too! Here are some of the most common complaints/challenges about GF baked goods, and their common solutions:

- *Baked goods dry out quickly:*
 - Avoid “low fat” recipes! If you're counting calories, try moderating the number of cookies you eat, rather than the amount of fat in them! If you're set on cutting down on the egg/butter/oil included in the recipe, try adding banana or other fruit to help GF baked goods retain moisture for a longer period of time. Freeze any baked goods that you aren't going to eat today or tomorrow. Muffins and breads generally reheat fine in the microwave and/or toaster (consider pre-slicing breads so you can take one slice out at a time), and cookies or squares will defrost on the counter just as well. Note that most GF flours absorb a lot more liquid than wheat flour, so expect your GF batters to appear “too liquidy”. GF yeast bread, for example, is not kneaded at

all, but rather stirred because the liquid content is so high.

- *Baked goods are crumbly:* gluten is a binding agent, so this is a common problem. Creating a moister baked good, using the tips above, will help. Adding *xanthan gum*, *guar gum*, or *ground flax seeds* to your baking can also help. Xanthan and guar gums are very expensive, but you only need a little bit (1/2tsp or so) to make a difference, so one package will last a long time. Resist the temptation to eat baked goods right when they come out of the oven! Allowing the baking to cool for 20 minutes or so will make it less crumbly when you eat it
- *Cakes, breads, and muffins are too dense:* good GF recipes will call for a blend of flours and starches which, in combination, should yield a lighter texture. If a recipe doesn't include a starch, skip it! A general starch : flour ration is 1/3 : 2/3 . Rather than mixing in the egg(s) as the recipes directs, try separating the yolk from the white. Mix the yolk(s) in when directed to add the egg, but leave the white out and beat it until soft peaks form. Then, when dry and wet ingredients are mixed together, carefully fold in the beaten egg white(s). This will add some air and lightness to the baked goods.
- *It doesn't taste "normal"!* By experimenting and learning, you can make really tasty gluten free baked goods, but no matter how good the recipe, or the baker, gluten free baking is going to be different from wheat-containing baked goods. Don't think of GF baking as a substitute, think of it as a replacement, and you won't find yourself comparing all the time. Anyone who has given up eating meat for ethical or environmental reasons can probably relate to this – no matter what marketers try to tell you, tofu does not taste like chicken, but despite this, it is something to be enjoyed in its own right.

Common GF Ingredients for Baking:

- Corn (starch, cornmeal, masa, or flour),
- Rice (brown, white, sweet, wild, black, or glutinous - *note that "glutinous" rice does not actually contain the gluten protein so it is also safe)
- Sorghum (grain or flour)
- Buckwheat (not actually related to wheat at all! Comes as a grain or flour)
- Amaranth or quinoa (grain or flour)
- Potato (starch, flour)
- Tapioca (unlike corn and potato, which have a distinct flour and starch, tapioca starch = tapioca flour, ie the names and products are interchangeable)
- Millet (grain or flour)
- Bean flours
- Teff (grain or flour)
- Nuts, seeds, flax, salba, hemp hearts
- Arrowroot starch
- Gluten-free baking powder (check the ingredients!)
- *real* vanilla (imitation sometimes contains malt flavouring – so check the ingredients!)

Resources: There are countless people blogging about gluten free diets and recipes. Try these good sites as a starting place: <http://gluten-free-blog.blogspot.com/>, <http://glutenfreegoddess.blogspot.com/> <http://glutenfreeday.com/>. There are also lots of Gluten-Free cookbooks available now, too. The Vancouver Public Library has a fairly good selection, so you can try some from there before buying anything. Dietician Shelley Case has a fairly comprehensive website about Celiac disease (an autoimmune disorder which renders people intolerant to gluten) and the gluten free diet: <http://www.glutenfreediet.ca/>.

A Selection of Recipes for Gluten Free Baking

**note that t = teaspoon and T = Tablespoon*

Espresso-Chocolate Chip-Nut Cookies

1/2c butter	2T ground flax
1.5c b sugar	1/2t salt
2 eggs	1c roasted and chopped walnuts
(Approximately) 2c corn flour*	1 1/2c chocolate chips
1c cornstarch	1/2c coarsely ground coffee beans
1 1/2tsp baking powder	

Cream butter and sugar, add eggs one at a time, blending each one well before adding next. Blend in vanilla. Mix dry ingredients. Add the wet mix. Stir in choc chips, coffee, and walnuts. Bake about 15 minutes at 350f (or until set). You may need to test a few cookies and add flour as you see fit (they will spread less on the pan if you add more).

Pumpkin Chocolate Chip Cookies

1c + 2tbsp sorghum flour	1tbsp ground ginger
2/3c garbanzo (chickpea) flour	1c canned pumpkin puree
1/2c tapioca starch	3/4c packed brown sugar
1tsp xanthan gum	1/2c shortening/margarine
2tsp gluten free baking powder	2tbsp orange zest
1tsp baking soda	1 1/2c chocolate chips
1/4tsp salt	

Combine dry ingredients in a medium bowl and mix well. Cream shortening and brown sugar together until light and fluffy. Beat in pumpkin puree, eggs, and orange zest, until smooth. Mix dry ingredients with the creamed mixture until well combined. Stir in chocolate chips. Bake 10 – 14 minutes (or until set), on lightly greased sheets at 350f.

Nutty Mocha Muffins or Loaf

1c sorghum flour	1 egg
1/3c garbanzo (chickpea) flour	1tbsp grated orange zest
1/4c tapioca starch	1c strong brewed coffee, at room temperature
1/4c packed brown sugar	1tbsp coffee flavoured liqueur (optional)
1 1/2tsp xanthan gum	1/4c vegetable oil
1tbsp baking powder	1/2c corn syrup
1/2tsp salt	3/4c coarsely chopped hazelnuts (or other)
3tbsp unsweetened cocoa powder	

Combine the dry ingredients in a large bowl. In a separate bowl, beat together the wet ingredients. Combine wet and dry ingredients, mix until just combined. Stir in hazelnuts. Bake at 350f in prepared muffin tins (about 20 minutes, or until firm to touch), or a greased 9"x5" loaf pan (about 1 hour, or until firm to touch).

Snickerdoodles

1c butter	2/3c potato starch
1.5c sugar	1t soda
2 eggs	1/2t powder
2c white rice flour	2t cream of tartar
1/3c tapioca flour	1/4t salt.

Cream butter and sugar. Add eggs and beat until smooth. Mix dry ingredients and combine with creamed mixture. Shape into 1" balls and roll in 1/2c cinnamon mixed with 1/2c sugar. Bake on an ungreased baking sheet, at 400f for 8 minutes, or until bottoms are light brown.

Trail Bars

1c dried figs	1c roast chopped hazelnuts
1 1/2c dried apricots	1c buckwheat flakes
1/2c dried pineapple	2/3c flax eggs <i>*see below</i>
1/2c dried papaya	1/2c applesauce
1c rice flour	2t vanilla
1c sf seeds	

Pulse dried fruit and rice flour together in a food processor to a coarse texture. Combine remaining ingredients and mix well with processed fruit. Spread in 10"x15", bake 350 for 10-12 minutes.

***Flax eggs**

1/4c ground flax, 3/4c + 2T water

Mix together in the blender for five minutes. 1/4c flax eggs = approx. 1 egg.

Banana Muffins

1/2c butter	1 1/4c white rice flour
1/2c superfine sugar (often called "berry sugar"). If you don't have any, just whiz some regular white sugar through the blender to give it a finer grind!)	5Tbsp cornstarch
2 eggs	2tsp baking powder
3 mashed bananas	1/4tsp salt
	3/4c raisins, nuts, or chocolate chips (or in combination)

Cream butter and sugar until fluffy. Add mashed banana. Combine dry ingredients and mix with creamed mixture. Stir in raisins/nuts/chocolate chips. Bake in prepared muffin tins at 350f, about 25minutes.

Gluten Free Pastry makes 1 double crust 9" pie or 2 open faced 9" pies

1/3c cold water	1/2c tapioca starch
2 tsp cider vinegar	2 tsp xanthan gum
2 egg yolks	1/4 tsp salt
1c rice flour	1c shortening
1c corn starch	

Mix together the dry ingredients and cut in the shortening with a pastry cutter or two knives until the mixture resembles coarse crumbs. Combine the wet ingredients and pour over the dry mixture. Mix gently to make soft dough that just holds together. Turn onto a rice-floured surface and knead gently to bring the dough together. The dough is quite hard to roll out because it breaks easily. I've found it easier and less frustrating just to press the dough into a pie plate like I would a crumb crust, instead of trying to roll it out as I would with wheat-flour pastries. It bakes just as well this way, too.

Whitewater (adapted) Granola Bars

1c coconut
1c sunflower seeds
1c sesame seeds
1c butter
1 1/2c smooth peanut butter
2 Tbsp vanilla

2c brown sugar
1c corn syrup
6 c gluten free oats (or 3c gluten free oats and 3c buckwheat flakes) *see notes at beginning of document for more info about GF oats

Toast the coconut, sunflower seeds, and sesame seeds in a skillet or in the oven and then combine. Cream together the butter, sugar, peanut butter, corn syrup, and vanilla. Stir together with the seeds and coconut, then stir in the oats (and/or buckwheat). Press firmly into a cookie sheet. Bake at 350f about 20 minutes (until browned). Cut while still warm, and remove from pan once cooled.

GF Chocolate Almond Torte:

1 1/2 c. blanched slivered almonds,
1c. sugar,
8 oz bittersweet (not unsweetened) or semi-sweet chocolate, chopped,
5 large eggs,

1/2 tsp. almond extract,
1/2 tsp. grated lemon peel,
1/2c. unsalted butter, melted and cooled,
1/4 tsp. Salt,
powdered sugar

Preheat oven 350F. Butter 10 inch spring-form pan with 2 1/4 inch sides.

Combine almonds and 1/3c. sugar in processor. Blend until almonds are very finely ground. Transfer almond mixture to a medium bowl; do not clean processor. Add chocolate and 1/3c. sugar to processor. Blend until choc. is finely ground but not beginning to clump, about 45 seconds. Stir into almond mixture.

Using electric beaters, beat egg yolks and remaining 1/3c. sugar in large bowl until mixture falls in heavy ribbons when beaters are lifted, about 5 minutes. Beat in almond extract and lemon peel. Fold in chocolate almond mixture, then butter. Using clean dry beaters, beat egg whites and salt in another large bowl until stiff but not dry. Fold whites into chocolate batter in 3 additions. Transfer batter to prepared pan.

Bake cake until tester comes out with moist crumbs attached, about 40 minutes. Cool cake completely in pan on rack. (Can be made 1 day ahead. Cover; store at room temperature.) Cut around pan sides to loosen; release sides. Sift powdered sugar over top.

Baci (rich, chocolate, hazelnut cookies)

3c hazelnuts
1 1/2c white sugar
1/2c cocoa
5 egg whites

1Tbsp honey
2tsp vanilla
2Tbsp melted butter

Grind the nuts and sugar together in a food processor until very fine but not oily/clumping. Combine the remaining ingredients and mix with the ground nuts. Let the batter rest about 10 minutes, then drop by small spoonfuls onto the cookie sheet. Bake at 325f for about 8 minutes (they should still be soft).

Caitlin's Cornbread

1c cornmeal
3/4c rice flour
1/4c cornstarch
1c + 2T milk or dairy free liquid
Salt

2 1/2t powder
1/4c oil
1/3c sugar
1 egg

Mix the dry ingredients together. Mix wet ingredients together. Combine and bake in muffin tins or a hot cast iron skillet, 375f about 20 minutes.

Delicious, Multi-seed crackers

1/2c water
2T olive oil
1t cider vinegar
1/2c brown rice flour
1/2c sorghum
1/4c corn starch
1/3c ground flax seed

1 1/2t xanthan gum
1/2t powder
1t salt
1/4c parmesan cheese
1/4c sesame
3T dried oregano
2T poppy seeds

Combine dry ingredients in food processor. Combine liquids, then add slowly while machine is running; process until a ball forms. (or do this all by hand in a mixing bowl!) Divide into 4 pieces, flatten, wrap tightly in saran or a plastic bag. Place in fridge for 10 minutes. Remove from fridge, place each piece between 2 sheets of waxed paper and roll out very thinly. Slice into cracker-size you desire. Bake on ungreased sheets for 18-25 minutes or until crispy and browning. Preheat oven to 375f.

Gluten Free Biscuits

1/2c brown rice flour
1/2c sorghum flour
2T amaranth flour
2T tapioca flour
2t sugar
1t xanthan gum
1 1/4t baking powder

1/2t baking soda
Pinch salt
1/2c shortening/margarine/butter (cold)
1/4c milk or alternative
1/2c additions (optional - dried fruit, nuts, berries, cheddar cheese, etc)

Combine dry ingredients well. Use a pastry cutter, 2 knives, or a food processor to cut in the (cold!) shortening until the mixture resembles coarse crumbs. Combine mixture with milk or milk alternative and stir to make a soft slightly sticky dough. Stir in the optional additions. Drop by heaped spoonfuls onto a greased baking sheet. Bake at 400f for 13-15 minutes, until tops golden. Serve!

Blueberry Flax Muffins

1c sorghum flour
1/3c quinoa flour
1/3c ground flax seeds
1/4c tapioca starch/flour
1 1/2t xanthan gum
1T baking powder
Pinch salt
1/4c cracked flax seeds

1 egg (or 2T ground flax seeds mixed with 1/4c warm water)
2T grated orange zest
1c orange juice
2T vegetable oil
1/2c maple syrup
1c blueberries or other berries

Mix dry ingredients well. Beat together wet ingredients, including egg or “egg”. Combine wet and dry, fold in blueberries. Spoon batter evenly into 12 greased muffin tins. Let stand 30 minutes. Heat oven to 350f. Bake 22 – 25 minutes, until firm to touch (may need a bit longer if using a flax egg).

Oatmeal Rhubarb or Zucchini Muffins

3/4c sorghum flour
3/4c buckwheat flour or gluten-free oat flour
1/3c gluten-free oats
1/4c tapioca starch/flour
3/4c packed brown sugar
1 1/2t xanthan gum
1t baking soda
1/2t salt
1T cinnamon

1 egg (or 2T ground flax mixed with 2T warm water)
1T grated lemon zest
1T lemon juice
1/4c vegetable oil
1c milk or milk alternative
1 1/2c rhubarb (or grated zucchini, squeezed out a bit – add some raisins too if you’re using zucchini!)

Mix dry ingredients well. Beat together wet ingredients, including egg or “egg”. Combine wet and dry, fold in rhubarb or zucchini and raisins. Spoon batter evenly into 12 greased muffin tins. Let stand 30 minutes. Heat oven to 350f. Bake 22- 24 minutes, until firm to touch (may need a bit longer if using a flax egg).

Montreal Carrot Muffins

1 1/3c rice flour
2/3c corn starch
2t powder
1t soda
Cinnamon
1/2t salt

2 eggs – separated
Scant 1c brown sugar (loosely packed)
1/2c oil
Generous 1/3c yogourt
1 1/2c grated carrot
1/2c (or so) raisins

Mix dry. Separate eggs. Mix yolks in with sugar and wet ingredients. Whip whites until *very* soft peaks form (can be done by hand – it just needs to be frothy). Stir wet ingredients into dry (batter will be stiff). Add carrots, raisins, and whipped egg white. Stir gently until completely combined. Bake about 19minutes at 350f. (makes 12 muffins).

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