



GLUTEN-FREE & VEGAN BREAD

Artisanal Recipes to Make at Home

JENNIFER KATZINGER

Founder of Seattle's Flying Apron Bakery



GLUTEN-FREE
& VEGAN
BREAD

Artisanal Recipes to Make at Home

JENNIFER KATZINGER
Photographs by Kathryn Barnard



SASQUATCH BOOKS
SEATTLE

Copyright ©2012 by Jennifer Katzinger

All rights reserved. No portion of this book may be reproduced or utilized in any form, or by any electronic, mechanical, or other means, without the prior written permission of the publisher.

Published by Sasquatch Books

Cover and interior photographs: Kathryn Barnard

Cover and interior design: Anna Goldstein

Library of Congress Cataloging-in-Publication Data is available.

eISBN: 978-1-57061-834-5

Sasquatch Books

1904 Third Avenue, Suite 710

Seattle, WA 98101

(206) 467-4300

www.sasquatchbooks.com

custserv@sasquatchbooks.com

v3.1_r1

For Lillian



CONTENTS

Cover

Title Page

Copyright

Dedication

Recipe List

Acknowledgments

Introduction

About the Recipes

About the Ingredients

YEASTED BREADS

WILD STARTER BREADS

FLATBREADS

BATTER BREADS

QUICK BREADS

About the Author



RECIPE LIST

YEASTED BREADS

Country Batard
Kalamata Olive Bread
Fougasse
Caraway Potato Bread
Straun Bread
Russian Black Bread
Broa
Round White Bread
Petite Buckwheat Round
Pain de Campagne
Multiple Grain Baguette
Whole Grain Batons
Grissini
Soft Millet Sandwich Bread
Quinoa Sandwich Bread
Light Teff Sandwich Bread
Cinnamon-Walnut Loaf
Swedish Braided Bread
Orange Chocolate Bread
Friendship Tea Ring
Sweet Perrin
Apricot Kuchen
Saint Lucia Buns
Czech Easter Wreath
Pecan Cinnamon Rolls
Raisin Cinnamon Rolls
Pannetone

WILD STARTER BREADS

Mother Wild Starter
Multiple Grain Wild Starter Boule
Sourdough Baton
Buckwheat Boule
Sourdough House Batard
Teff Baton
Pumpkin Sage Loaf
Soft Quinoa Sourdough
Potato Rosemary Bread
Walnut-Wild Rice Bread
Pumpkin-Rosemary Bread with Biga

FLATBREADS

Lilli's Carta di Musica

Flatbreads for Nonni

Matzo

Quinoa Salt-and-Pepper Crackers

Arepas

Sardinian Flatbreads

Oat Farls

Iranian Barbari Flatbreads

Indian Roti

Injera

Focaccia Simple

Focaccia *con Gusto*

Focaccia *con Funghi*

BATTER BREADS

Buckwheat Batter Bread

Cornmeal Batter Bread

Sesame Seed Batter Bread

QUICK BREADS

Peach Ginger Bread

Quick Anadama Bread

Banana Walnut Bread

Zucchini Bread

Blueberry Streusel Bread

Cranberry Pecan Bread

Date Oat Bread

Raspberry–Rooibos Tea Bread

Holiday Irish Soda Bread

Apple Walnut Bread

ACKNOWLEDGMENTS

THERE ARE SO MANY PEOPLE TO whom I feel gratitude, that have influenced the turn of events to the point such that I have found myself authoring a third cookbook! First and foremost, thank you, Joseph. Thank you for sharing your life with me, I love you. Thank you for courageously and lovingly inspiring me to go after what I find to be meaningful. Thank you, Lilli. Thank you for always showing me new ways. This most precious and sacred gift of being your mommy and getting to know you every day, I cherish with all my heart. I love you, Lilli. Thank you, Gabrielle Anderson. I am so grateful for your friendship. Your pureness of heart, ardor for vitality, and nurturing presence enkindle such joy in Joseph, Lilli, and me. Thank you to all of Lilli's grandparents, aunts, uncles, and cousins. All your love and support is deeply felt. Thank you to the entire Sasquatch Books team: working with all of you is such a creative, productive, and joyful experience. Thank you, Susan Roxborough, for your guidance and for having the confidence in me to author a third book. Thank you, Rachel Longé, for your graceful and instructive communication. Thank you, Anna Goldstein, for your beautiful design work. It is such a great pleasure to work with you. Thank you, Kathryn Barnard. Your photos make my books come to life in such artful and mouthwatering ways. It is an honor to have your involvement. There are so many people I haven't mentioned whose enthusiasm, friendship, and support have fueled the manifestation of this book. I hope when you read this you all know who you are and how grateful I am.

INTRODUCTION

WRITING THIS GLUTEN-FREE, VEGAN bread-baking book has been an earnest goal of mine for some time. Making bread at home has the power to transport you right into the most precious of places. There you will find yourself at your kitchen counter, completely immersed in the act of working with your hands, creating a dough with all your senses engaged that will be baked into a nourishing choice staple for you and your family. Bread has a rare and special presence in our lives as a food we hold in the highest esteem, a food that has been in existence since ancient times and is still present at most meals, whether fancy or casual, across numerous cultures. Sharing bread with others is a very common and yet a very sacred experience.

It also seems that there is a growing movement afoot. More and more people are taking time to participate in the most simple yet fulfilling acts of living: baking their own bread, shopping at farmers' markets, getting involved with community gardens, making music, and more.

Being able to bake your own bread with ingredients full of life-giving sustenance is very empowering. And, it can be extremely gratifying to bake your own gluten-free and vegan bread. I am going to go so far as to say that right now it is even essential if you want your bread to be of high quality. I am acutely aware of the gluten-free breads available in the supermarkets and how they are very rarely also vegan or even dairy- and egg-free. They also tend to be laden with cornstarch and high fructose corn syrup, are heavy on guar and xanthan gums, lacking in whole grains (and therefore fiber), and aren't usually organic. I believe you will benefit on so many life-enriching levels by baking your own bread. If you are someone who has celiac disease; are gluten-free and vegan; or even just avoid eggs, dairy, or gluten due to allergies or food sensitivities (but you love healthy bread), I believe you will use these recipes often. Partaking in this age-old tradition of baking, you will be connecting with the timeless experience of transforming flour and water into bread to be shared.

Upon commencing the creation and collection of these bread recipes, I drew upon my first gluten-free and vegan bread experiences from back when I started the Flying Apron Bakery. That was a time when I predominantly used single-strain yeast, baking soda, and some batter bread techniques. Although I had always wanted to be intimately involved in creating and working with a gluten-free sourdough starter, this seemed like too much of an undertaking when I ran the bakery—in part, I suppose, because we had our hands full with the production of so many pastries. I am now thrilled to say I have a gorgeous gluten-free sourdough starter in my refrigerator, and it is such a joy to be independent (when I want to be) of store-bought yeast, and to be enjoying bread that has the tangy taste of a slight fermentation. I also rejoice knowing that my family is reaping the benefits from breads that have many strains of yeast instead of just one, as well as containing all those extra B vitamins.

The spectrum of recipes in this book covers lighter soft sandwich breads, old-world flatbreads, crusty baguettes, sweet yeasted breads, very hearty whole grain breads, breads made with their own wild starter, wholesome batter breads, and instantly gratifying quick breads. With every recipe my desire has been to create something beautiful, delicious, and nurturing. If you are a health nut like me, you will probably find the wild starter breads and batter breads to be the healthiest in the book; still, all of the breads here are beneficial and

health-promoting, made with wholesome ingredients that are nutrient dense, have very little added sweetener, and use minimal xanthan gum, when it is called for at all.

The About the Ingredients section ([this page](#)) dives into the rich details about each wonderful wholesome flour, root, seed, sweetener, and oil, affirming how exciting it is to be making and savoring this gluten-free, vegan bread. Even the lighter yeasted breads, which offer a little less fiber, are made with flours such as teff, amaranth, sorghum, and quinoa. All of these grains are valued for their unique content of minerals and vitamins, and are naturally high in protein and fiber. You will also notice chia seeds and flax meal in many ingredient lists: both are powerhouses for fiber and nutrition. Delving into and exploring each ingredient in order to compile this section of the book was extremely gratifying and enlightening.

On that note, I would like to draw your attention to three ingredients that appear in the book's recipes: tapioca flour, arrowroot, and xanthan gum. The first two I make special mention of because I have changed my tune slightly about these starches. If you are acquainted with my other two cookbooks you may recall my enthusiasm over recipes being free of starches and made only with whole grain flours. I still very much prefer whole grain flours to refined flours; however, I have included tapioca flour and arrowroot in a good number of the bread recipes here because I wanted to provide a range of breads that varied from being quite light to very hearty. I also took a closer look at these two ingredients and was delightfully surprised to learn that they have some beneficial qualities and are made in what appears to be very natural ways. Arrowroot, for example, is a perennial plant that is made into a powder by drying the juice extracted from its roots. It is high in vitamin B6, folate, thiamin, niacin, iron, phosphorus, potassium, and manganese. Tapioca flour is extracted from the cassava root, and while it certainly isn't packed with nutrition, it does contain a bit of folate and a fair amount of iron as well as other trace minerals.

As for xanthan gum, you will notice there are many recipes that contain a teaspoon of xanthan gum to yield one loaf of bread. You will also notice a fair number of recipes that call for no xanthan gum. This can be explained very simply: when I could achieve fantastic results without it, I didn't include it. This was most often the case with the flatbreads, batter bread, wild starter breads, and many of the quick breads. In other recipes I found it to be a necessary ingredient in order to yield loaves of bread that held together well and had a smooth crust. (Should you choose to omit the xanthan gum from any recipe, I think you will find the bread still most toothsome, but its appearance will be extremely crackly on the crust and you may achieve slightly less oven spring.) In researching this ingredient, I have found varying opinions about its inclusion in our foods. It is certainly widely used, as it can be found in most prepared salad dressings, ice creams, gluten-free baked goods, and more. However there are instances of people voicing their discomfort after ingesting xanthan gum, describing symptoms such as severe bloating. Most commercial xanthan gum is a byproduct of bacteria that feed on corn, with some derived from the bacteria feeding on wheat. Intuitively, it does not feel like a food. However, in writing this book, I learned that it does occur in nature and can be found on cabbage leaves. Knowing this puts me somewhat at ease because perhaps the problem is in having too heavy a dose of xanthan gum in our foods. I cannot speak as an authority on the matter, but I do feel a great sense of responsibility in bringing to light these various concerns, as xanthan gum is used in many of the recipes here. Please do consider this before proceeding and learn more by reading the introduction to the

Wild Starter Breads chapter ([this page](#)).

Now that you have an overview of what this book offers and an informed awareness as to why you will benefit from these recipes, I would like to conclude by sharing that I have taken great teachings and ideas from many other bread book authors, including those writing about gluten breads. I looked especially to Peter Reinhart and Andrew Whitley's respective books for wild starter and fermentation instructions, as well as for a more thorough and in-depth understanding of what happens on a molecular and biological level with yeast and bacteria as they feed on starches and proteins. Of course these books were referring to glutinous grains but they helped me to understand and speculate on a much deeper level why my gluten-free doughs were reacting so differently, and why new methodologies are called for to create a better gluten-free, vegan bread. (You may be surprised at my instructions regarding the dough rising period!) I imagine there has been a certain disrespect for gluten-free breads in the baking community because they are, for the most part, trying to imitate wheat bread (with the exception of flatbreads made from cassava, injera bread, arepas, oat farls, corn tortillas, and some purely oat breads), using a great many ingredients and additives to do so. In comparison to the almost four thousand years bakers and scientists have been working with wheat and studying the many gorgeous artisan ways one can utilize forms and flavors from wild starters, very little attention has been devoted to gluten-free breads. It feels like we are just at the beginning of a long journey through uncharted waters, navigating the use of gluten-free flours in a way that incorporates wild yeasts and whole grain flours without relying on eggs or dairy, or large amounts of guar and xanthan gums. With the recipes included here, I believe we have made terrific headway! I have taken inspiration from breads of different heritages, and have to some extent tried to replicate a texture, taste, and experience that transports us and offers a connection to tradition. My goal was to do so in a way that had great respect for each ingredient and to use the fewest ingredients possible, giving the breads more integrity for what they were while still drawing upon an ancient semblance. Because I am not a scientist, I am unable to provide as much of the chemistry involved with steps taken in each recipe, but I have some strong theories and discoveries to share, plus interesting evidence to back them up! Through much trial and error, I present you with the tastiest of these gluten-free and vegan bread recipes. Happy baking!

About the RECIPES

LIKE THE RECIPES in my other books, the ones you'll find here probably look different from those found in other vegan or gluten-free cookbooks. Some of the characteristics that make the recipes in this collection unique are detailed here.



SOY-FREE, DAIRY-FREE, AND EGG-FREE

All of the recipes in this book are gluten-free, plant-based, and made from whole foods. So that they can be enjoyed by all, the recipes are also very allergy friendly: they are soy-free, dairy-free, and egg-free—a rare combination.

I've noticed over the years that many vegan cookbooks depend heavily on soy as a substitute for eggs and milk. While soy is a wonderfully nutritious food, there are many people who suffer from soy allergies, so its use is omitted here. Aside from being less allergenic, these soy-, dairy-, and egg-free foods have the added bonus of being cholesterol-free. I've received a lot of positive feedback from people who have really appreciated the absence of soy in my recipes.



WHOLE GRAINS AND LOCAL, ORGANIC PRODUCTS

Many gluten-free recipes rely heavily on eggs, egg replacement products, and white rice flour. You will notice that most of the flours used in these recipes are made primarily with whole grains. Given the health benefits of whole grains, I strongly prefer their use over processed and refined flours and starches.

The sweeteners used in many cookbooks tend to be refined and unhealthy. Instead of those, the recipes that follow utilize natural sweeteners such as maple syrup, Sucanat, date sugar, and molasses.

Michael Pollan (author of *Food Rules* and *In Defense of Food*) emphasizes the importance of using as many local ingredients as possible, and I would like to do the same. Of course, “local” ingredients vary from one place to another; I advise you to select and support the local options that are available to you.

Finally, note that none of the recipes call specifically for organic ingredients. That said, I do enthusiastically encourage you to choose organic ingredients whenever possible. When you choose organic ingredients, you are selecting foodstuffs free from harmful pesticides as well as pulled from a richer soil, which in turn provides more minerals and nutrients for our bodies.

About the INGREDIENTS

IF YOU HAVE CELIAC DISEASE OR ARE GLUTEN-INTOLERANT, it's a good idea to consistently check that the sources of your ingredients are safe from gluten contamination. There are some very trustworthy brands such as Bob's Red Mill and Lundberg, for example. Some companies that sell brown rice flour, bean flours, oats, or other would-be gluten-free ingredients mill wheat or other glutenous grains along with the gluten-free ingredients, making what should be a gluten-free ingredient a carrier of gluten. Thankfully, awareness of gluten intolerance has grown so tremendously that buying gluten-free ingredients has become increasingly easy over the years. Check with the Gluten Intolerance Group (www.gluten.net) for sources of gluten-free ingredients near you.

Some of the ingredients in this cookbook may require a trip to a specialty store or may need to be ordered online. Others are common enough to be shelved in the health food section of large grocery stores.

ACTIVE DRY YEAST is a living organism, a microorganism that transforms sugar into carbon dioxide, making the bubbles in dough that we rely on to produce light loaves of bread. It is very fine, concentrated, and potent store-bought single strain of yeast that has been dried but still has live cells. (I find Fleischmann's RapidRise instant yeast to yield the most consistent results.)

ALMOND MEAL, which is made from ground sweet almonds, has a consistency much like cornmeal. It adds a rich nutty taste to breads and baked goods as well as moistness, and is loaded with vitamin E and magnesium.

AMARANTH FLOUR has a very distinct and delightfully earthy flavor and is high in fiber (with twice the fiber of wheat, for example) and protein. Amaranth is actually not a grain (like wild rice) or even a grain, but a broad-leafed plant that is related to Swiss chard and spinach! The top flowers of the shoots are abundant with the seeds that are ground into amaranth flour. Amaranth is rich in lysine, an amino acid lacking in most grains. It is also an excellent source of iron and calcium and is high in vitamin E.

ARROWROOT is a unique starch in that it contains calcium ash and trace sea minerals. It is a fine powder with a consistency that lends lightness to baked goods and breads. Arrowroot is surprisingly quite unrefined: The rootstalk of the arrowroot plant is simply dried and ground to make the powder.

BROWN RICE FLOUR has a very delicate flavor and is a terrific source of fiber. It also contains some protein and significant amounts of the minerals selenium and magnesium.

BUCKWHEAT has a very distinguishable and particularly hearty taste. It is actually an herb plant; its seeds are milled to create a beautiful dark-colored flour. Buckwheat is very easily digested and is considered a complete protein in that it contains all eight essential amino acids. It is high in fiber as well as B vitamins and is also a wonderful source of calcium, phosphorous, and magnesium. Because it is digested slowly, you are more likely to feel very satisfied and full after eating something made with buckwheat.

CHIA SEEDS, from the desert of southern Mexico, are from a plant that belongs to the mint family. What is so remarkable about chia seeds is that when soaked in water, they transform into a very thick gelatin. They are a fantastic source of soluble fiber and work beautifully at slowing down the conversion of carbohydrates into sugar in the digestive tract. Chia seeds are also an amazing source of omega-3 fatty acids. I find them to be a very healthful ingredient that adds binding ability to gluten-free dough.

COCONUT FLOUR, high in fiber and protein, has a slightly sweet taste and adds body to baked goods. It is made from the fiber of coconut meat after its oil has been extracted.

CORNMEAL is dried corn kernels that have been ground into flour. I prefer the cornmeal that contains the bran and the germ as it is more nutritious. Bob's Red Mill (www.bobsredmill.com) has an excellent organic cornmeal that contains both the bran and the germ. Cornmeal is a very tasty and potent source of fiber. In addition, folate and the antioxidant beta-cryptoxanthin are found in significant amounts.

DATE SUGAR is an unprocessed sugar made from dehydrated dates that are ground into small bits. Date sugar is high in fiber and contains many vitamins and minerals, including iron.

EVAPORATED CANE JUICE comes from sugar cane, as does refined sugar; however, evaporated cane juice is processed to a much lesser degree so it retains more of the sugarcane's nutrients, such as riboflavin.

FLAX SEEDS and **FLAX MEAL** are super-rich in alpha linolenic acid, an omega-3 fatty acid, as well as lignans and fiber. They are terrific for adding a binding quality to egg-free baked goods and breads, along with a small but significant flavor and texture. They are a wonderfully healthful ingredient with potent anti-inflammatory properties and are associated with a reduced risk of cancer.

GARBANZO BEAN FLOUR is a great choice for creating substance in gluten-free doughs and adding moisture and a subtly sweet, beany flavor. It is high in protein, fiber, and iron. Something fascinating I just learned is that garbanzo beans also contain molybdenum, which

helps the body rid itself of sulfites.

HAZELNUT FLOUR is a slightly sweet and nutty flour that adds great texture and exceptional flavor to baked goods. Hazelnuts and hazelnut flour are rich in vitamin E as well as potassium and magnesium.

MAPLE SYRUP comes from the sap that is extracted from maple trees and then boiled to create the topping we often drizzle on pancakes. Enjoying a little bit of maple syrup is a wonderful way to receive the trace minerals zinc and manganese.

MILLET FLOUR comes from the seeds of a cereal grass that is closely related to sorghum. It is a fine source of protein, potassium, iron, and magnesium and imparts a quality of lightness to baked goods and breads.

OATS that are grown and milled segregated from glutinous grains are considered gluten-free. Usually oats are milled in mills that also grind wheat, barley, rye, and the like, therefore picking up trace amounts of gluten. Thankfully, gluten-free oats are widely available now. Oats are rich in B vitamins, iron, calcium, vitamin E, and very high in fiber and protein! Since they are a high-fiber food that is digested slowly, they reduce cholesterol and regulate blood sugar.

POTATO FLOUR is made from ground dehydrated potatoes. It adds moisture and body to baked goods and is very high in potassium.

POTATO STARCH, made by extracting the starch from potatoes, is very mild in taste. It is high in vitamin B6, potassium, thiamin, magnesium, niacin, phosphorus, and manganese.

QUINOA FLOUR, made from ground quinoa seeds, is a unique flour with a mildly nutty and non-addictive taste. It is one of the most nutritious flours one could possibly use. It has more protein than any other flour and is high in zinc, iron, calcium, B vitamins, phosphorus, potassium, magnesium, and manganese.

SORGHUM FLOUR (also known as milo flour) comes from the whole grain kernel of sorghum. Nutritionally sorghum is much like corn but higher in protein and fat. It contains many minerals such as potassium, calcium, niacin, and phosphorus, has a very mellow taste, and adds body to gluten-free breads and baked goods.

SUCANAT is made from dehydrating juice from the sugar cane. It has a full-bodied flavor and

is much less refined than other sugars.

TAPIOCA FLOUR is made from cassava root, which is boiled and dried and then powdered. Tapioca contains no protein, but it does provide a little bit of folate and a fair amount of iron, as well as other trace minerals such as calcium, magnesium, phosphorous, potassium, zinc, copper, manganese, and selenium. I find its addition to breads contributes a delicious golden crust and often creates a lighter texture, as well as toning down the flavors of stronger flours.

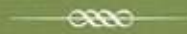
TEFF FLOUR is a flour milled from the North African whole grain cereal known as teff, the world's smallest whole grain. Teff flour has a delightful, wholesome, yet subtle taste. The protein content of teff flour is exceptional in that it contains all eight essential amino acids. Teff flour is also rich in fiber, calcium, copper, and iron. It is also very high in lysine, an important amino acid frequently lacking in other grains.

WILD YEASTS consist of many strains of yeast and can be captured at home from the unique microorganisms floating around in your kitchen! To learn more, refer to [this page](#) for a comprehensive tutorial. Some wild yeasts have been passed down for hundreds of years and are valued for their flavor and connection to the past. These yeasts are full of B vitamins.

XANTHAN GUM is used to add elasticity to gluten-free doughs. It is a natural byproduct of *Xanthomonas campestris*, which feeds on fermenting plant matter—often corn, but sometimes wheat. Because of this, be sure to know your source of xanthan gum to avoid trace amounts of gluten. This process of fermentation is similar to the fermentation of beer, cheese, and yogurt.



YEASTED BREADS



I HAVE A BREAD CONFESSION. I have what some may think an outrageous method for making gluten-free yeasted breads that is unique and contrary to what works so beautifully for gluten breads. Many gluten-free bread bakers (including myself) start with the process methodology, and intuition of traditional bread baking when that may not be necessary. Before I lay out this unique gluten-free bread process, let me shed some light on yeast and enzymes.

Yeast is an expeditiously reproducing fungus that is ubiquitous in our environment; when used in baking, it causes breads to rise in the most delicious of manners. This is due to the fascinating chemical reaction that begins with yeast reproduction. Yeast reproduction (which is not very romantic but quite effective) is called *budding*. In budding, a yeast cell wall expands until it detaches itself from the main cell. This new cell then grows and follows the pattern of detaching—and the budding process continues.

Amidst all this growth and budding, the yeast cells are simultaneously producing enzymes—the very complex proteins that (very simply put) break larger molecules into smaller ones so that they are easily digested. One yeast enzyme called *invertase* breaks sucrose into glucose and fructose; then the yeast goes to town eating up the glucose now so readily available. Through this digestion and consumption, wonderful bubbles of carbon dioxide and very small amounts of ethanol (alcohol) are released. It is because of this rather gassy affair that our bread dough rises.

As of late, all the rage in the artisan wheat bread world is about slow fermentation, a process that allows the dough to have an extended period of time in a cool environment to rise and gain flavor. The enzymes take the stage as they tirelessly and diligently break down the starches; meanwhile the yeast cells are mostly dormant, sleeping in the chilly air. As the enzymes work, the starches are turned into various sugars that eventually metamorphose into a taste experience that is deliciously rich and elaborate. The baker however, must take the lead in this *couru* (dance) with the enzymes if there is going to be a favorable outcome. Since the enzymes would (rather rudely) dine on so much of the starch and protein if left unchecked, without the baker's intervention there wouldn't be the fine balance and ratio of starch to protein to sugar to yield a structure of dough (even in the case of a glutinous dough) to create a loaf of bread.

All this discussion of enzymes and yeast is indeed leading up to my gluten-free bread confession. Bear with me as I give just a few more details about gluten. My goal is that as this background information will provide a basic understanding of how traditional ingredients are transformed into breads so that we can begin to deduce why a new method is called for when working with gluten-free flours.

Gluten is a blend of the proteins gliadin and glutenin, which are attached to starch in the endosperm of many grass-related grains such as wheat, barley, spelt, and rye. When the grain's flour is combined with liquid, the gliadin and glutenin bond to make the durable and resilient protein we call gluten. It is because of this strong web of proteins that glutinous doughs have such exquisite elasticity. This elasticity provides both the room and the confinement to trap the gassy carbon dioxide air bubbles given off during fermentation. When

a glutinous dough is baked, the result is a fine loaf full of air pockets, a well-kept shape, and a chewy texture.

So what happens when one wants to create a gluten-free bread that is also full of air pockets and has a beautiful shape and a toothsome texture? Here is my confession: After many yeasted bread doughs are shaped, they are not left on the counter to rise and ferment. Instead they are placed directly into the hot oven to bake. How scandalous this feels to bypass such a sacred tradition of rising and fermentation! Yet time after time these gluten-free recipes perform so much more pleasingly when this supposedly crucial step is omitted. Even the dough in the wild starter chapter's recipes (that are made from your very own starter) go directly into the oven rather than fermenting/rising again.

You may be wondering if these gluten-free vegan yeasted breads rise at all, and if so how this occurs. You may also be wondering why these gluten-free doughs perform in such a different manner than gluten doughs if left to ferment and rise. First of all, indubitably these yeasted bread doughs rise. Upon entering the hot oven, the dough's temperature—and therefore the yeast's temperature—rises. Bear in mind that yeast is very much influenced by temperature. In fact, intense heat causes the yeast cells to go into an accelerated state of feeding, devouring sugars and emitting carbon dioxide gases. This impressive increase in the dough's mass upon initial baking is called *oven spring*. Eventually, the yeast cells perish when the temperature of the dough reaches 140 degrees F. At this time the bread dough stops rising and begins transforming into bread as the baking continues. Both glutinous breads and gluten-free breads benefit and rely (to different extents) on oven spring. One of the major differences with my gluten-free bread recipes is that I rely exclusively on oven spring for rising.

I have a theory as to why my gluten-free vegan bread recipes do so well without rising, as well as why the fermentation/rising period prior to baking doesn't yield the satisfactory results that it does for traditional gluten breads and other gluten-free bread recipes that contain eggs and large amounts of xanthan gum.

Let's compare gluten doughs to gluten-free doughs first. Gluten is a unique protein in that it builds and rebuilds bonds with other protein molecules such as gliadin and glutenin (to name just a few). In this reassembling process a very tenacious, intricate, complex, and tight structure is created that can withstand great enzyme activity. Remember, enzymes really get to work during the fermentation process of traditional breads, breaking apart peptide bonds between amino acids. This enzyme activity over time will greatly affect the bread dough's flavor, as well as its structural strength.

Because of this, the length of time a gluten dough ferments can be much longer than a gluten-free dough. Here is my theory as to why: Activity by *protease*, an enzyme that works on protein chains, is radically increased when acting on gluten-free ingredients. In comparison, protease activity in wheat dough is minimal (and is often relied upon by wheat bakers only to soften the dough while it rests prior to kneading). But because doughs that are gluten-free have so little structure to begin with, if they are allowed to ferment and rise on the counter, the enzyme activity will increase, and protease will regretfully leave something that is so crumbly and weak in structure that one could hardly call it a bread at all. Hence my method for popping gluten-free bread dough directly into the oven and relying on oven spring from the yeast for risen bread.

Let us now address the vast majority of gluten-free bread recipes that call for a rising

period: they contain eggs and in most cases three times the amount of xanthan gum most recipes do. Both ingredients contribute greatly to the dough's ability to trap gases and provide structure and elasticity. The eggs offer strong binding properties and are used as a form of leavening. The xanthan gum serves as a replacement for gluten, providing viscosity and, in that, the pliability to trap yeasty gases. I view xanthan gum as an additive rather than a food (it's likely that most people do as well, but disregard this in order to achieve more desirable results) and I feel it should be used only in small amounts. Given that, I am uncomfortable using a tablespoon of xanthan gum in each bread loaf, and of course want to avoid eggs since these are vegan breads—so I prefer other ways of leavening.

Which brings us full circle in this new method of relying on oven spring for leavening and using the hot oven to bake structure into the bread. To reiterate: Rather than letting the dough rise, or depending on extra xanthan gum and eggs to withstand the enzyme activity taking place in gluten-free dough, I rely on the accelerated yeast activity. This occurs when the dough initially enters the hot oven, and as it bakes into a bread that holds together so exquisitely.

Finally, these recipes are a whole lot of fun! They are made with very little effort and offer great fulfillment on many levels. You will find savory and sweet yeasted breads, both drawing from older bread-making traditions across many cultures. Naturally, they are not exact replicas of traditional wheat breads, given that their main ingredients are structurally and anatomically different. Be that as it may, rest assured that the recipes that follow will manifest into the most delicious of gluten-free and vegan breads, made by your very own hands!



YEASTED BREAD TIPS AND TECHNIQUES

Now that you are familiar with relying on oven spring for rise (bypassing a leavening period in a warm environment), let me share a few helpful tips for handling yeast doughs and working with the ingredients.

In almost all of the recipes, chia seeds are called for. Please be sure to soak the seeds for at least 15 minutes. In fact, because these recipes come together in less time than you may expect, go ahead and let the chia seeds and water have a 10-minute head start prior to starting the other steps. The viscous, thick slurry that develops in this time really makes the doughs sturdier and allows for more gases to be trapped during oven spring.

Let's discuss preheating the oven. Many of the recipes call for a water bath, which does wonders for the bread! The steam creates a gorgeous crust that you will be so proud of. It's best to place the water bath in the oven before preheating it, because you want to quickly pop the bread into the hot oven so as to prevent too much hot air from escaping. If you are juggling both the water bath and bread, the oven temperature is bound to decrease. Also, it's best to have a steamy environment in the oven as soon as the bread enters. I like to use a ceramic or glass pie plate to hold water for my water bath.

- [download online How the Other Half Lives](#)
- [read online Marvelous Modular Origami](#)
- [Adrift in the Noosphere book](#)
- [read online Astronomy \(November 2012\) pdf, azw \(kindle\), epub](#)
- [read online Domesticated: Evolution in a Man-Made World](#)
- [download A Philosophical Enquiry into the Sublime and Beautiful \(Penguin Classics\) here](#)

- <http://diy-chirol.com/lib/The-Importance-of-Being-Earnest-and-Other-Plays--Salome--Lady-Windermere-s-Fan.pdf>
- <http://yachtwebsitedemo.com/books/Marvelous-Modular-Origami.pdf>
- <http://www.shreesaiexport.com/library/Cooking-Apicius--Roman-Recipes-for-Today.pdf>
- <http://www.satilik-kopek.com/library/Astronomy--November-2012-.pdf>
- <http://sidenoter.com/?ebooks/Domesticated--Evolution-in-a-Man-Made-World.pdf>
- <http://www.shreesaiexport.com/library/A-Philosophical-Enquiry-into-the-Sublime-and-Beautiful--Penguin-Classics-.pdf>