

BREAD Lines



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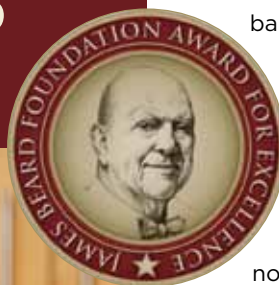
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The Bread Bakers Guild of America is the leading American educational resource for artisan bread bakers. Our mission: to shape the knowledge and skills of the artisan baking community through education. Bread Lines, the newsletter of The Bread Bakers Guild of America, is published four times per year.

PHOTO: COLIN CLARK, FINE COOKING

JOANNE CHANG WINS JAMES BEARD AWARD



By LAVERNE MAU DICKER
Director of Membership Services

Joanne Chang of Flour Bakery + Café in Boston, MA, has been named 2016 Outstanding Baker by the James Beard Foundation. The award, which was instituted in 2015, is given to a professional baker who produces “breads, pastries or desserts in a retail bakery, and who serves as a national standard-bearer of excellence.”

Joanne had been nominated for James Beard awards in five previous years: in 2011 and 2012 for Outstanding Pastry Chef, in 2013 and 2014 for Best Chef Northeast, and in 2015 for Outstanding Baker, the first year that award was presented.

In her acceptance speech at the awards ceremony on May 2 in Chicago, she said, “I want to thank my parents. Every year that I’ve been nominated, they think I’ve won, so finally, I can tell them that I actually won. I want to thank my staff. I have an incredible staff. I love them all, and they make me want to go to work every day. And, most of all, I want to thank my husband. It’s a pretty awesome thing to have your husband and business partner and best friend be all the same person. I’m really lucky.”

Joanne has been a member of The Guild since 2009. She taught at WheatStalk 2014 and co-taught a Guild class, “Breakfast Evolution,” with Rachel Crampsey in 2015. 🌟

“Be the change that you wish to see in the world.”

– MAHATMA GANDHI

My wife reminded me of the above quote as I explained that my first draft of these Notes didn't feel right. They were too negative. I had attempted to express my displeasure about how so many bakers seem to be spending energy taking sides on issues instead of focusing on championing their own cause. I was pointing an accusatory finger, just as I was trying to tell others not to.

It would be hard for anyone to argue that artisan baking is as dynamic as ever. Whole grains seem almost cliché and Red Fife feels vanilla. I realize this is not actually the case, but what was once a needle in a haystack is no more. As recently as 10 years ago, ancient grains were quinoa, teff, and amaranth, to name a few. Today the umbrella covers varieties of wheat like einkorn and emmer, or old varieties of rye. On top of that, bakers aren't using just “wheat” and “rye” but are referring to the actual variety. It's not only becoming common for bakeries to buy a mill; bakers are now building their own.

I just read an article from Edible Rhody that was linked in The Guild's eNewsletter. The article is about Jim Williams of Seven Stars Bakery and his new venture, Backdoor Bread, in which he is making whole grain breads with a variety of freshly milled grains that are locally sourced. He is embracing the challenge that comes with all of those things as he explores new flavors and new techniques to work with these grains, and most importantly, it looks as if he is having a blast doing it. The traditional practices and techniques he has used for so long aren't always ideal in his new world. He's working with 100% whole grain but is not

against possibly bolting or sifting the flour in the future. Consumers are loving it as much as he is, as they both get different benefits. If you check out Backdoor Bread on social media, you can see the evolution of the mill and the bread. The pictures show a lot, but the words are as good, or better. Jim is active in posting his thoughts and responding to comments. What I love most is that Jim's whole project has this awesome positive energy to it. If you read the article, you will learn about the path that led him to where he is and where he is going. He doesn't express any regrets or criticism about what he has been doing, and is still doing at the bakery he started 15 years ago – he says only that he was ready for a new challenge.

You can't help but focus on the grains and the breads and the mill, but if you rise above that, you can see something that is a thread among so many of us: the passion. I wish I could try some of the bread! Not because it's whole grain, made from freshly milled flour, or because the grain is local although all of those are good reasons. I want to try it because it looks delicious and it was made in a way that makes me want to be part of the action.

Making bread and pastries that are flavorful, wholesome, and from the heart is why a lot of us love being bakers. We get the rewards of bringing something new into existence and the joy of seeing others enjoy the fruits of our labor. There are more tools than ever available to us. If we want to use whole grain, we can – fresh milled or not, roller milled or stone ground, local or not. All of the choices may not be available to many of us, but perhaps they will be one day. That shouldn't be a



PHOTO: COURTESY OF JEFF YANKELLOW

limitation but rather an opportunity for what can be. As we open a new door, it doesn't mean we have to close the other. That is a personal choice. If you pursue with passion and purity, others will see it, be inspired, and possibly catch the bug themselves! That is something special and unique.

My message here is not intended to be a discussion about ancient grains, whole grains, or fresh-milled flour. We can save that one for another day. I used Backdoor Bread and Jim Williams as an example of something greater. If you do something with genuine intention, good intention, and fueled by passion, people will notice. People will follow. You will impact change. Don't worry about what others are doing. Don't waste your energy pointing fingers; be the example. You won't have to say anything. It will be obvious in the bread you bake.

JEFF YANKELLOW
Board Chair

Read more about the Backdoor Bread project at <http://ediblerhody.ediblefeast.com/food-thought/backdoor-bread-project>

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RISE UP! ARTISAN BREAD: BAKING THE PAST, PRESENT, AND FUTURE

By **ROSIE DEMMIN** Guild Member and Co-Owner, Rise Up! Artisan Bread, Jacksonville, OR

When my husband, Jo Ferneau, and I first came to Oregon in 2007, we built a small, Old World-style cob oven of Arab origin with the help of our friend and local cob builder, Coenrad Roghman. Jo started every Saturday morning by loading wood into the baking chamber and lighting the fire that would keep the oven hot for 10+ hours after the coals were removed. Then he began the invigorating process of mixing 80 pounds of dough by hand. We were testing our formulas and “keeping our chops up,” as my dad likes to say.

During the next couple of years, we devoted most of our time to designing and constructing a two-story octagonal, straw bale commercial kitchen and bakery. We choose straw bale construction because we value natural building materials and a smaller eco-footprint. It is highly insulative. Straw seems like an odd choice for a place that deals with fire, but the bales are actually fire-resistant, because they are dense and covered with lime plaster. There’s not much room for air in the walls, and as a result, they’re at a low-risk for fires.

Our oven is highly insulated as well, so even though it gets up to 600 degrees inside the oven, the air above it is only about 120 degrees at the most. We had the local fire chief out to inspect it. He pointed his infrared thermometer around during the height of firing and declared it safe.

The bakery is part of a structure shared with our intentional community, called Full Bloom; we are two of the six founding members. At present, three families and two single folks live together in our intentional community. Five of the seven adults work in the bakery.

The building also includes a communal dining room, library/lounge, office, and kids’ loft. This lodgepole pine beauty was built by local French-Canadian pole-framer, John Difruscia, and a handful of other skilled local carpenters, including



Lydia Doleman of Flying Hammer Productions, who used her strawbale skills to insulate the exterior walls.

Our wood-fired Lopis oven, which comes with a rotating hearth, was built into the center of the bakery shortly after the pole framing was finished. At almost 13 feet in diameter and 7 feet tall, our oven is a mighty presence. Built by two visiting Spaniards over eight days in September of 2008, it was quite a feat! We have been quite pleased with every aspect of our oven. We use a little over a cord of firewood per month to keep it constantly hot. In the winter our building stays warm, and in the summer we are able to cool it off at night by opening the cupola windows. The masonry hearth of the oven, which rotates “Lazy Susan” style, makes peel-loading much easier on our backs. However, one must be highly skilled with a bread peel to load and unload it. The firing, timing, and steaming require a lot of attention and skill as well.

We sell our bread in stores and to restaurants, caterers, CSAs, and farmers markets in the Rogue Valley. Because we are located in the foothills of the Siskiyou Mountain



TOP: Rosie Demmin shaping dough.
BOTTOM: Jo Ferneau with some of Rise Up's breads.

range of Southern Oregon, a 40-minute drive from the largest city, we are not a retail outlet. Our bread is baked between 8:00 pm and 2:00 am. At 5:00 a.m. our wonderful packout crew bags it up in biodegradable packaging, and the bread is delivered to stores by mid-morning.

We choose to bake only three days a week so that we are able to live more balanced lives. Our goal is for us to run the business, rather than having the business run us. We bake for ourselves as well: the community consumes 10–15 loaves per week. Everyone is spoiled, saying they cannot stand to eat other bread while travelling!

There are some definite trade-offs here. I would love for our customers, who already love our bread, to get it even fresher and without bag-softened crust. But we need to leave space for our bakery, our family, and our intentional community to be equally well-tended.

For us, bread making is as exciting, alive, and changing as the wind, especially when working with the inconsistent quality of the organic or local flour we use, which keeps us on our toes. Bread is our teacher, and we respect its life every time we lay our hands on it. We do not create it but attempt to create the right conditions

to allow it to flourish. And we'll never stop learning. Every loaf we bake is a small miracle to us: the product of centuries of many bakers' successes, failures, and sharing of knowledge. ☀



RUSTIC LEVAIN

Contributed by JO FERNANAU and ROSE DEYMIN

The house-milled, locally grown whole wheat flour in this bread gives the crumb a beautifully speckled appearance. Long fermentation adds flavor and a rustic appearance.



NOTES

- Desired dough temperature is 71°F in summer and 75°F in winter.
- If loaf is proofing too quickly, retard 40–90 minutes at 38°F.

RUSTIC LEVAIN			Total Flour Fermented in Levain 27.80%			
Total Dough Weight 10.000 kg			Bread Flour 16.14%			
			Whole Wheat Flour 100.00%			
TOTAL FORMULA			LEVAIN		FINAL DOUGH	
Ingredients	%	kilograms	%	kilograms	%	kilograms
Total Flour	100.00	5.286	100.00	1.469	100.00	3.817
Bread Flour*	86.10	4.552	50.00	0.735	100.00	3.817
Whole Wheat Flour†	13.90	0.735	50.00	0.735		
Water 1	78.52	4.151	71.43	1.050	81.25	3.101
Water 2‡	2.17	0.115			3.00	0.115
Salt	2.17	0.115			3.00	0.115
Starter**	6.32	0.334	22.73	0.334		
Levain					74.75	2.853
Totals	189.17	10.000	194.16	2.853	262.00	10.000

*Hard red winter wheat (12% protein)

†Stone ground, coarsely milled

‡Adjust water if needed

**100% whole wheat flour, 100% water, 20% starter

PROCESS – Rustic Levain

Preferment		Levain
Mixing	Type of mixer	Spiral
	1 st speed	0:03–0:05
Fermentation	Length of time	1:00
	Temperature	75°F
Final Dough		
Mixing	Type of mixer	Spiral
	Mix style	Short, double hydration
	Hold back	Salt, Water 2
	1 st speed	0:03–0:05
	Autolyse	0:20
	Add	Salt
	1 st speed	0:03–0:05, slowly adding Water 2
	Dough temperature	71°F
Fermentation	Length of time	4:30
	Temperature	75°F
	Number of folds	3
	Timing for folds	1:00
Shaping	Divide	775 g
	Preshape	Round
	Resting time	0:20–0:30
	Shape	Bâtard
	Proofing device	Well-floured couche
Proof & Bake	Final proof time	4:00
	Temperature	75°F
	Oven type	Wood-fired brick
	Scoring	2 diagonal slashes
	Steam	10 sec
	Total bake	Until crust is very dark & internal temp is 205°F
	Temperature	455°F–465°F

The Neale Creamer

SCHOLARSHIP FUND



The Guild is pleased to announce the establishment of a scholarship fund to honor the memory of our longtime Treasurer, Neale Creamer.

In keeping with the educational mission of The Guild, the Neale Creamer Scholarship Fund will provide financial assistance for qualified member applicants to attend a Guild class or WheatStalk.

To donate online to the scholarship fund with PayPal, go to www.bbga.org and sign in. Your Username is your email address. Click on the Home-Members Only tab and then on Donate.

Checks made out to "The Neale Creamer Scholarship Fund" may be sent to:

Cathy Wayne
The Bread Bakers Guild of America
670 West Napa Street, Suite B
Sonoma, California 95476

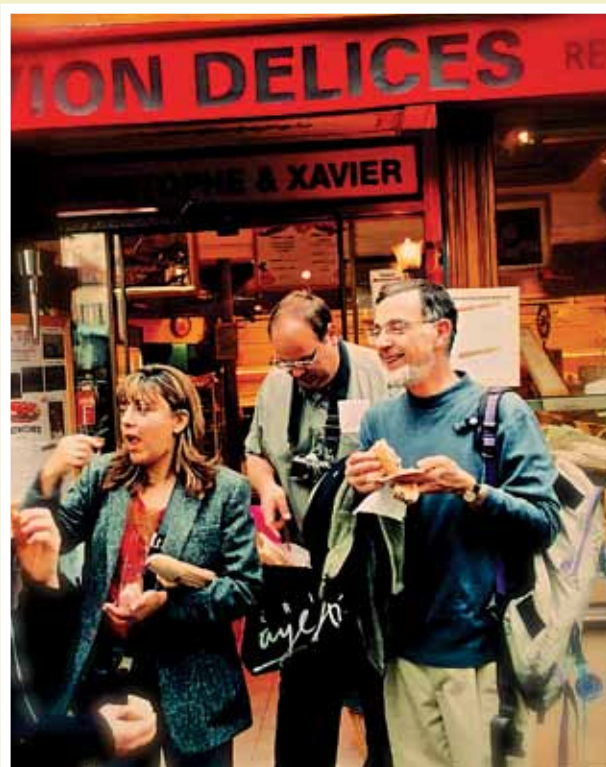


PHOTO: ABE FABER

Formatting Update

THANK YOU Jerod Pfeffer of 460 Bread in Driggs, ID, has stepped down as Associate Formula Editor. We are very grateful to him for his generous contribution to The Guild. He has significantly improved the formatting standards and processes, as well as managed our team of formatters – all while running a bakery. Jerod will continue to volunteer as a consultant to the formatting team.

WELCOME We are delighted to welcome two new Associate Formula Editors: Meeghen Eaton, a serious home baker and food blogger in Agassiz, BC, and Zach Langenkamp, Vice President at Blue Baker in College Station, TX. Both Meeghen and Zach have been members of our formatting team since 2013. They will work with Allen Cohn, Chief Formula Editor, supervising our dedicated team of volunteer formatters. ✨

LUMINITA CIRSTEA

By JOHN L. WILDA

Guild Member, Baking & Pastry Student
at Johnson & Wales University

Owner of JW Cakes and More, Leeds, MA

From Computer Engineer to Certified Master Baker

I first met Luminita Cirstea in the winter of 2014, when she was the instructor for my sophomore bread lab at Johnson & Wales University in Providence. My first impressions of her were that her accent was hard to understand and that she was going to be a very strict chef. However, as I got to know her, I realized that she is dedicated not only to her profession but to the success of her students as well. She is one of the most motivated and passionate chefs I know. I was thrilled for her when the University announced that she had passed her CMB (Certified Master Baker) exam with the Retail Bakers of America.



Lumi is constantly learning, practicing, testing and reviewing. She spent last summer training hard and long for her CMB certification exam with the help of several of her colleagues.

There are three stages to becoming a CMB. The first stage is a 100-question exam which must be completed within two hours. If you pass, and you are awarded the title of "Certified Journey Baker" and are eligible to move on to the next level. Lumi completed this in 2004.

The second stage is called "Certified Baker." In order to reach CB status, you have to pass an exam as well as a bench test.

In her native Romania, Lumi was a computer engineer who had very little cooking experience. When she came to the United States in 2001, she noticed that American culture was very food-centric, and she decided to get an education in the culinary field. She started with night school at Kendall College in Chicago and continued her studies in the full-time Baking & Pastry Program. She then moved on to the San Francisco Baking Institute, the French Pastry School, and the Chocolate Academy.

Lumi has been an instructor at Johnson & Wales University since 2011, teaching the next generation of bakers all that she knows, with just the right amount of tough love. Many students who have taken her classes say that she is one of their most caring and dedicated instructors. Rita Hamel, a Johnson & Wales student, says, "(Lumi) takes you out of your shell ... and through her skillful teaching, shows you what you are capable of. She understands (that) you end up learning from your mistakes."

In the third stage, to become a Certified Master Baker, a written exam and a demanding practical exam must be passed.

Keep in mind, this is no ordinary exam. Chefs face extremely rigorous challenges to create products meeting the requirements set by the RBA. The bench exam is split into two days, for a total of 16 hours. Formulas are provided to the chefs for each product they have to make; however, only three of these are given to the candidates before the day of the test. Passing the exam requires a high level of skill and ingenuity.

As a Certified Master Baker, Lumi is now a part of a small and specialized community: there are just over 100 CMBs in the whole United States, and only one at each of the four Johnson & Wales campuses.

Lumi believes that every chef should attempt this process at least once, because "it is an experience that would help any chef to grow." ☀



Luminita Cirstea demonstrates folding, shaping, proofing, and scoring.

Candidates for Certified Master Baker must pass both a written exam and a demanding practical exam.

PHOTOS: CIRIL HITZ

Going **WILD** with the little t team

PRODUCT DEVELOPMENT: THE ART OF COLLABORATION

By **GREG CARPENTER** Guild Member and President, Crooked Tree Breadworks, Petoskey, MI

Longtime bakers know that being an artisan baker is not always fun and exciting. When I start noticing signs of burnout in myself, I look for new perspectives on baking, either by connecting with other bakers or by injecting some excitement into my bakery's product line. So when I heard through The Guild that "Product Development: The Art of Collaboration" was being taught by Bread Bakers Guild Team USA 2002 member, Tim Healea, owner of little t american baker, I immediately signed up.

Tim co-taught the class at the Art Institute of Portland with two of his bakers, Dillon DeBauche and Chris Frazier. Dillon and Chris are the kind of employees every bakery owner wishes they had.

Competent, creative, and committed, they long ago mastered the rules of traditional artisan baking and are now able to break them at will.

And break them we did. Creative experiments have led these bakers to many great ideas. Candy Cap Mushroom Soaker? Why not? Why score fragile whole grain loaves right before they go into the oven, when scoring them before they proof can minimize the risk of "deflation"? Why not mix white wine and fennel into a poolish and see what happens? How about hand-propagating yeast from a bottle of beer to cultivate an Earl Grey tea-infused culture with honey?

Tim intentionally encourages his bakers to create. From developing a concept, to making a formula, to "editing" products,

he maximizes the unique skills of his team by playing to their strengths. He says, "Some are good with ideas, some are good with evaluations. They have the tools and the facility. I just have to let them go wild!"

Dillon's passion is for creating and combining flavors. As he explains it, "I start with manipulating unique flavors and ingredients, and then I find a way to work them into a texture. You may not be able to taste the individual flavor components, but combined, they create a unified whole, almost like a stew."

This was demonstrated in the Pumpkin Seed Currant Bread we baked. It highlighted the use of buckwheat honey ("I love the 'barnyard-y' aroma of this stuff!" Dillon said.) and corn flour to play off the



LEFT: Breads made in class included Farmhouse Beer Bread, Portuguese Sweet Bread, and Khorasan Flint Corn with Rosemary Bread. ABOVE: Instructor Tim Healea slices breads for tasting as Greg Carpenter looks on.

FEBRUARY 28
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Product Development: The Art of Collaboration

**TIM HEALEA
DILLON DEBAUCHE
CHRIS FRAZIER**

The Art Institute of Portland
Portland, OR

Liaison ~ Cory Schreiber



FROM LEFT: Khorasan Flint Corn with Rosemary Bread (foreground) and Farmhouse Beer Bread. Instructor Chris Frazier and Jennifer Busby shape a buckwheat currant bread as Elena Kuhn observes.

intensity of the Red Fife wheat and rye starter, and the Khorasan flour in the final dough. The resulting flavor was deliciously unlike any I've experienced before.

Many of the formulas we followed in class used multiple preferments, soakers, or porridges. For instance, the Durum, White Wine, and Fennel Seed Baguette formula used a special poolish to develop the flavors of the wine and fennel (with a touch of Red Fife wheat). This was combined with a white levain that did the "heavy lifting" and provided the textural backbone of the loaf. In this instance the poolish acts as an infusion/textural enhancement.

"Sometimes the best products come from mishaps."

~ TIM HEALEA

Using grains such as teff, Khorasan, spelt, and rye opens doors to many new possibilities, but bakers must accommodate the unique characteristics of these grains in order to fully realize their potential. One technique we used

in class was particularly interesting to me: "denaturing" the enzymes in a whole grain before building a levain. The Teff Sourdough that we made included a levain made from whole teff flour and apple cider. Left unchecked, this will ferment like wildfire, but by pouring scalded apple cider over the teff flour, one can denature the enzymes, allowing fermentation to proceed at a much more controllable rate. Clever.

"One of the cool things about collaborating is getting an awareness of contrasting styles," said Chris, whose skills are a perfect complement to Dillon's. He likes to play different flavors and textures against one another and has the technical proficiency to do it. His skills were evident when, "in the interest of overpromising and under delivering," Tim decided to add one more bread on the second day: Buckwheat with Currants and Hazelnuts.

When Chris tried to pull it from the mixer, it clearly did not look the way it was supposed to; it was soupy and underdeveloped, the kind of dough that has deflated the hopes of many of us at one time or another. Unfazed, Chris nurtured the dough into shape over the course of its fermentation through a series



Students learned how to develop a concept, create a formula, and test it

of small manipulations, rests, and folds. The loaves turned out beautifully.

"Sometimes the best products come from mishaps," said Tim.

Meeting and baking with Tim, Dillon, and Chris was inspirational, informative and a lot of fun. As I munched on my loaf of Buckwheat Currant Hazelnut Bread (which beat the heck out of the hotel breakfast bar) I looked anew at the tools and staff I had waiting in the bakery back home. I couldn't wait to get back and brainstorm with the bakers. 🌟

Farmhouse Beer Bread

Contributed by **TIM HEALEA**

Originally made as a collaboration with The Commons Brewery in Portland, this bread incorporates malts and yeast used by the brewery to make its award-winning Farmhouse Ale.



Instructor Dillon DeBauche demonstrates scoring technique for Farmhouse Beer Bread.

NOTES

Scale and then toast the whole malted barley and whole malted rye in a 350°F oven for 5–6 minutes. When cool, mill into flour.

FARMHOUSE BEER BREAD

Total Dough Weight			6.930 kg		Whole Malted Rye		0.00%	
TOTAL FORMULA				CULTURE		FINAL DOUGH		
Ingredients	%	kilograms	%	kilograms	%	kilograms		
Total Flour	100.00	3.995	100.00	0.923	100.00	3.072		
Bread Flour*	92.40	3.692	100.00	0.923	90.12	2.769		
Whole Malted Barley	6.70	0.268			8.71	0.268		
Whole Malted Rye	0.90	0.036			1.17	0.036		
Water	69.20	2.765	83.30	0.769	64.96	1.996		
Salt	2.20	0.088			2.86	0.088		
Farmhouse Yeast	1.89	0.076	8.20	0.076				
Instant Yeast	0.16	0.006			0.21	0.006		
Culture					57.52	1.767		
Totals	173.45	6.930	191.50	1.767	225.56	6.930		

*Hard red winter wheat (11.5%–12.5% protein)



Loaves of Farmhouse Beer Bread (foreground) and Khorasan Flint Corn with Rosemary cool after baking.

PHOTOS: PATRICIA NEF

PROCESS - Farmhouse Beer Bread

Preferment		Culture
Mixing	Type of mixer	Hand
	Length of time	Until incorporated
Fermentation	Length of time	06:00–10:00
	Temperature	75°F
Final Dough		
Mixing	Type of mixer	Spiral
	Mix style	Improved
	1 st speed	0:04
	2 nd speed	0:01
	Dough temperature	75°F
Fermentation	Length of time	20:00–24:00
	Temperature	40°F
Shaping	Divide	550 g
	Preshape	Light round
	Resting time	0:20
	Shape	Bâtard
	Proofing device	Seam side down on well-floured couche
Proof & Bake	Final proof time	0:45–1:00
	Temperature	80°F
	Oven type	Deck
	Scoring	Chevron
	Steam	3 sec
	Total bake	0:30–0:35
	Temperature	500°F
	Damper open	Last 0:05



MARCH 5-6

No-Knead Pizza: Stecca and Ciabatta Variations

JIM LAHEY

General Mills
Minneapolis, MN

Liaison ~ Bill Weekley

No-Knead PIZZA – Stecca and Ciabatta Variations: **TUNAFISH AND TOOTHPASTE SANDWICHES**

By **JOHN JACOBSON** Guild Member and Serious Home Baker
Minneapolis, MN

In early March in Minnesota, a white-out blizzard can mask the emerging signs of spring's arrival. March 5 was different. The long winter's snow had melted, and sunshine streamed from the sky like the flames of a well-stoked brick oven. The class itself was also different. There would be no digital thermometers and dough temps, discussion of autolyse times, or shaping baguettes. We were in the General Mills Test Kitchens for a two-day class on "No-Knead Pizza: Stecca and Ciabatta Variations."

The class was a well-rounded mix of professional bakers and serious home bakers from across North America. Some were exploring possibilities of this bread

in their commercial operation and others, like me, were there to expand personal knowledge.

Our instructor, Jim Lahey of Sullivan Street Bakery in New York, encouraged us to throw out conventions which might impair our ability to fly. We would learn to explore limits of our ingredients while regarding technique appropriate in the styles of Ciabatta, Pizza Bianca, and Stecca.

The day prior to class, Jim prepared three different no-knead doughs which were fermented overnight at room temperature. He showed us how to handle these wet doughs without incorporating extra flour into the dough's interior: learn to feel the dough and don't overwork it. Put it in place and don't move it! That mantra applies in the mixing, the pre-shaping, the

final shaping, the proofing, and the baking stages. These are wet, rustic-style doughs, and over tweaking them compromises their potential.

One notable point was Jim's theory about taking common everyday ingredients and making something awesome with them through proper handling and technique. For inspiration he recommended taking a walk through the local grocery store and making a mental list of ingredients (he specifically mentioned canned tuna and toothpaste). Return to the store another day and look at those ingredients again. They'll start looking differently as you think about using them in your kitchen. Such was the case with a pan pizza he made, using pizza dough, apples, Brie cheese, pancetta, extra virgin olive oil, and herbs.



FROM LEFT: Jim Lahey prepares a pizza topped with pancetta, Brie, apple, herbs, and extra virgin olive oil. Photos of the baked and sliced pizza.

STECCA VARIATION

One of the shapes possible with the dough variations from class is a “stick” punctuated with vegetables. After baking, the sticks (or “stretchies,” as Jim called them) can be eaten cold or reheated and served. Class participants talked about using them as an entrée or slicing them between the vegetables and using the slices as an appetizer. A great tip Jim passed along was using an equal ratio of topping to dough for each individual stick. Our 100 g sticks were topped with 100 g of tomatoes.



LEFT: Jim drizzles olive oil over prepared Stecca before baking. RIGHT: Preparing Stecca.



and you'll have pita; too firm, and you'll puncture the dough. Challenge yourself. Make many variations of this pizza by changing the mix of flours in the dough and using different oils, herbs, and spices.

In class we used what we had on hand to put together our own creations.

CIABATTA VARIATION

Flour, water, yeast, and salt. We all know it makes bread. Get your hydration upwards of 80%, and you're in Ciabatta Land. Try throwing out convention, taking yourself

and your ciabatta dough to 98% hydration for a new experience. On the first day of class, we saw how a lower hydration, no-knead dough, fermented at lower temperatures, is slow to develop. At the end of the day, we put together several batches of dough, ranging from 88% to 98% hydration. At the beginning of Day 2, these wetter doughs were much further developed than their lower-hydration counterparts from Day One. This was a key takeaway knowledge for some in the class, as they contemplated using this technique in their baking and serving schedules.

OTHER VARIATIONS

In a sneak preview of his new book, Jim put together a batch of no-knead sourdough ciabatta, using a fresh preferment provided by one of our classmates. The finished product clearly had more developed flavors than our straight dough products employing the long fermentation technique. As a home baker juggling a work schedule with obligations around the home, I will be interested to read and explore

the sourdough facet of the no-knead technique and its variations. 🌟



TOP (L-R): Class members show their approval of Pizza Bianca. Jim Lahey coaches Sumi Chang on the finer points of dividing and shaping 98% hydration dough. BOTTOM (L-R): Pizza Bianca proofing before final shaping and baking. Finished Ciabatta variation.

Stecca

Contributed by JIM LAHEY

Due to its narrow shape the author refers to this bread as stecca, which means “stick” in Italian. It is based on the faster-rising Pizza Bianca dough and is stretched into a narrow rope.



NOTES

- In a medium bowl, stir together flour, table salt, yeast, and sugar. Add water. Using a wooden spoon or your hand, mix until dough is wet and sticky, about 30 seconds. Cover bowl and let sit at room temperature until surface is dotted with bubbles and dough has more than doubled in size, about 12 to 18 hours.
- When first fermentation is complete, generously dust a work surface with flour. Using a bowl scraper or rubber spatula, scrape dough out of bowl in one piece. Fold dough over itself two or three times and gently shape into a flattened ball. Brush surface of dough with some of olive oil and sprinkle with $\frac{1}{4}$ teaspoon of coarse sea salt. (This salt will gradually dissolve.)
- Place a tea towel on work surface and generously sprinkle with wheat bran, cornmeal, or flour. Gently place dough on towel, seam side down. If dough is tacky, dust top lightly with wheat bran, cornmeal, or flour. Fold ends of tea towel loosely over dough to cover and place

in a warm, draft-free spot for 1 to 2 hours. Dough is ready when it has almost doubled in size. When dough is gently poked with a finger it should hold the impression. If it springs back, let rest for another 15 minutes and repeat poke test.

- Half an hour before the end of the second rise, set oven rack to middle position and preheat oven to 500°F. Brush a 13" x 18" x 1" baking sheet with olive oil and set aside.
- Cut dough in quarters, roughly 190 g pieces. Gently stretch each piece evenly into a stick shape, approximately the length of the oiled pan. Place on pan, leaving at least 1" between loaves. Brush with olive oil and sprinkle remaining sea salt. At this point variations can be made by adding tomatoes, garlic cloves, or olives.

TOMATO STECCA: Push in 10 cherry tomato-halves across the length of the dough. Brush with olive oil. Top each tomato half with thinly sliced garlic and a couple of fresh thyme leaves. Sprinkle with salt.

STECCA

Total Dough Weight		8.190 kg
TOTAL FORMULA		
Ingredients	%	kilograms
Bread Flour*	100.00	4.000
Water	87.50	3.500
Salt	1.00	0.040
Instant Yeast	0.25	0.010
Olive Oil	15.00	0.600
Sugar	1.00	0.040
Totals	188.75	8.190
Coarse Sea Salt		As Needed
Cherry Tomatoes, halved		As Needed
Olives		As Needed
Whole Garlic Cloves, crushed		As Needed

*Hard winter wheat (12% protein)

GARLIC STECCA: Push in 10 lightly crushed garlic cloves across the length of the dough. Brush with olive oil and sprinkle with salt and freshly ground black pepper.

OLIVE STECCA: Push in 10 olives across the length of the dough and brush with olive oil.

- Bake for 15 to 20 minutes, until the crust is golden brown. Cool on the pan for 5 minutes then transfer to cooling rack.



FROM LEFT: Jim gives a container of no-knead dough a fold after over-night fermentation. Members of the class slice fresh ciabatta for lunch.

Breads of the WORLD

TRAVELING THE GLOBE THROUGH FORMULAS

By **SANDY KIM-BERNARDS** Guild Board Member and Director of Baking
Chabaso Bakery – New Haven, CT

If you have ever taken a class with Didier Rosada, you might already know what to expect. For those bakers who have yet to experience a Didier class, my advice to you is to come as a sponge, ready to absorb huge amounts of information on all topics bread!

“Breads of the World” explored flavors from Morocco, Portugal, Hawaii, Mexico, Chile, Brazil and Costa Rica. Since bread often mirrors Mother Nature’s gift of ingredients in that specific region, it was very interesting to see how certain flavors were used and why.

During the two days of the class, we worked with a lot of enriched doughs, high in sugar and fat. If you have worked with such doughs, you might know there are many schools of thought on the mixing technique. Should I add all the sugar in the beginning of the mix, or hold back, and how much? Should I hold back all the fat and add it in stages, or just add it in at once? Should the butter be cold

or room temperature? Most bakers have found a solution that works for them and their personal baking needs, but it is always an advantage to understand why we do what we do.

Sugar is hygroscopic in nature and acts as a dough softener, meaning it will attract water and has a tendency to shorten gluten strands. Due to these characteristics, breads enriched with sugar have a tendency to stay soft and become stale at a slower rate. When mixing dough with high sugar, it is imperative to supply enough hydration so it does not take away from the hydration of the flour. To ensure this, Didier showed us when mixing product with high amounts of sugar (12% or higher) to add the sugar in stages. This helps in two ways. First, holding back sugar until the flour has had a chance to absorb all the hydration that it can (about 5 minutes in 1st speed) will ensure that quality gluten strands are built. Consequently, this will allow strong gluten development in the

dough, which can withstand the softening properties of the additional sugar, without collapsing. As we begin to add sugar in stages, it is also very important to hold back water to add in with the sugar. As mentioned earlier, the hygroscopic nature of the sugar will dehydrate the dough. During class, we held back some hydration from the final formula to add with our sugar.

When it comes to adding fat, we held back room temperature butter until our dough was 90% developed. Much of this had to do with our formulation. Most of the enriched breads we made had more than 15% fat. When working with a formula with 8%–10% fat, one can add the butter in during 1st speed of the mix. From 10% to 15%, it is advisable to add in butter after 50% development. For anything above 15% fat, add in after 90% development. For our addition of butter at 90% development, we pulled a gluten window that showed organized gluten development with one or two thick gluten



FROM LEFT: Didier talks to students about acidity and gluten development as he gets ready to add a preferment into a mix. Pão de Queijo, a roll that is very popular in Brazil, made with a special pre-cooked tapioca dough, garlic, and cheese.

PHOTOS: (L) CHRIS YOUNG, (R) SANDY KIM-BERNARDS

MARCH 12
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Breads of the World

DIDIER ROSADA

Long Beach City College
Long Beach, CA*Liaisons ~ Pierre Juès & Chris Young*

veins. Also, we added all our butter in at once. Once the gluten is developed, it should be able to handle the addition of the fat and still maintain its strong structure.

With these mixing techniques under our belts, we made an array of enriched dough while traveling the globe through Didier's formulas. We made Portuguese Sweet Bread with subtle flavors of orange and lemon zest. In addition, this formula had lemon juice and orange juice, which acted as natural dough conditioners and provided strength to the dough. We shaped this into a "candy" shape and sprinkled it with granulated sugar to prevent it from getting too dark in the oven. It had a wonderfully fragrant aroma and sweet fermentation notes from the sponge.

We also made some Hawaiian bread with dried pineapples and ground ginger, which was a sort of melt-in-your-mouth experience. We shaped this dough into round rolls, gave it a zigzag cut on top and sprinkled with pearl sugar. The contrast of soft and crunchy was delightful.

And how can we talk about Mexican bread without making conchas? A very typical bread found in any local panadería, this bread has a crunchy topping designed with a concha or shell score. We used a formula with shortening, which is



CLOCKWISE FROM TOP: Didier demonstrates dividing quantities for some of the sweet doughs. Moroccan Galette, Portuguese Sweet Bread, and Hawaiian Bread. Class members work to put a final shape to the Portuguese Sweet Bread. Caribbean Banana Bread from Costa Rica is made by cooking banana into a paste and is topped with shredded coconut.

PHOTOS: (CENTER) SANDY KIM-BERNARDS, (OTHERS) CHRIS YOUNG

traditional. You can use butter in the topping formula, but due to the low melting point, it might be difficult to work with the topping, and you might not get the same crunch.

Due to the huge availability of bananas in Costa Rica, banana is often used as filler in breads. The Caribbean Banana Bread used an interesting technique: the banana was cooked to deactivate an enzyme that could produce soupy dough. With the addition of dried papaya and dried coconut, there was only a subtle flavor of the bananas. But my suspicion is that with a riper banana, more banana flavor might have come through.

The weekend was full of tastings and great conversations about the other everyday breads we had a chance to explore, like the Moroccan Galette, which uses semolina, durum, and sesame seeds. The Naan was enriched with goat milk yogurt and topped with poppy seeds, sesame seeds, pistachio, onion seeds, sumac powder, and salt. A savory Brazilian roll called Pão de Queijo was made with sour tapioca flour and filled with cheese and garlic powder. Marraqueta, one of the most popular breads in Chile, is said to have been introduced by two French baking brothers in the 19th century.

Classes like this always makes me walk away wanting to explore more of our world's bread offerings. And I guess we are all doing it ... one loaf at a time. ☀



CLOCKWISE FROM TOP: Didier shows shaping techniques and explains the importance of pre-shaping. Marraqueta Chilena has an excellent crust and light crumb. Moroccan Galette, scored and ready to go into the deck.



PHOTOS: (BREADS) SANDY KIM-BERNARDS, (REMAINDER) CHIPS YOUNG



LEFT AND RIGHT: Students in the class shape Portuguese Sweetbread rolls.

Hawaiian Bread

Contributed by DIDIER ROSADA

Developed by Portuguese immigrant bakers, Hawaiian Bread is a sweet bread flavored with pineapple and ginger, two natural and local flavors from the islands.



PROCESS - Hawaiian Bread

Preferment		Sponge
Mixing	Type of mixer 1 st speed	Spiral 0:05
Fermentation	Length of time Temperature	12:00 73°F
Final Dough		
Mixing	Type of mixer Mix style Hold back	Spiral Intensive ½ sugar, butter, dried pineapple
	1 st speed {105 RPM}	0:05
	2 nd speed {210 RPM}	0:02–0:03
	Add	½ sugar
	2 nd speed {210 RPM}	0:02–0:03
	Add	½ sugar
	2 nd speed {210 RPM}	0:02–0:06, adding butter when gluten is 90% developed
	Add	Dried pineapple
	1 st speed {105 RPM}	Until incorporated
	Dough temperature	76°F–78°F
Fermentation	Length of time Temperature	1:00 75°F–79°F
Shaping	Divide Preshape Resting time Shape Proofing device	200 g Light round 0:30 Tight boule Parchment-lined sheet pan
Proof & Bake	Final proof time Temperature Oven type Garnish	2:00 80°F Rack Egg wash and top with pearl sugar
	Scoring	Scissors cut
	Steam	No
	Total bake	0:15
	Temperature	350°F

HAWAIIAN BREAD

Total Dough Weight 27.145 kg			Total Flour Fermented in Sponge 23.79%			
TOTAL FORMULA			SPONGE		FINAL DOUGH	
Ingredients	%	kilograms	%	kilograms	%	kilograms
Bread Flour*	100.00	13.121	100.00	3.121	100.00	10.000
Water	29.51	3.873	60.00	1.873	20.00	2.000
Pineapple Juice	19.05	2.500			25.00	2.500
Egg	7.62	1.000			10.00	1.000
Salt	1.40	0.183	0.10	0.003	1.80	0.180
Instant Yeast	0.02	0.003	0.10	0.003		
Osmotolerant Instant Yeast	1.91	0.250			2.50	0.250
Sugar	22.86	3.000			30.00	3.000
Dried Pineapple, diced 5 mm	15.24	2.000			20.00	2.000
Unsalted Butter	9.15	1.200			12.00	1.200
Ground Ginger	0.11	0.015			0.15	0.015
Sponge					50.00	5.000
Totals	206.88	27.145	160.20	5.000	209.30	27.145
Egg Wash†		As Needed				As Needed
Pearl Sugar		As Needed				As Needed

*Hard winter wheat (12% protein)

†100% egg, 25% water

PIZZA EXPO 2016

If your idea of a pizza dinner is going to the local “chain” pizzeria to have a large pepperoni pizza and pitcher of cheap beer, don’t bother coming to next year’s Pizza Expo. Pizza Expo is all about raising the bar to introduce what is new and interesting in the pizza world. The 2016 event held the continued evolution of pizza to a much higher standard, from a variety of fronts: exhibitors, pizza-making schools, and International Pizza Challenge contestants.

The convention floor is always filled with companies exhibiting anything related to pizza. However, this year, the millers were most notable, and a number of Guild members baked cutting-edge pizzas. Nicky Giusto from Central Milling, for example, provided the hungry Expo crowd with sprouted wheat focaccia made with 70% organic flour, 30% sprouted wheat, and a 2% stiff levain that was bulk fermented overnight. Roasted squash and mushrooms were light and healthy toppings.

Whole grain, multi-grain, and a variety of ancient grain pizzas were produced on the exhibit floor. Whether they offered health benefits or just filled a demand for new and different tastes was unclear, but

there was an influx of new flours being exhibited by Polselli, an Italian miller. One is called Curcuma, and is described as a Tipo 0 soft-wheat flour with powdered turmeric that has an intense, ochre-yellow color and a distinctive flavor. Curcumin is an active ingredient of turmeric believed by some to have antioxidant and anti-inflammatory properties. Other flour blends included toasted wheat, ash, and paprika, a spice said to have digestive benefits. Another flour blend, Canapa, contained hemp seed. Master pizzaiolos made pizzas with these flours to share with the crowd. The Curcuma flour pizza was topped with Calabrian red peppers and fresh mozzarella. The golden-colored crust showed through the spicy peppers and cheese. These pizzas were clearly outside the ingredient boundaries for authentic Neapolitan pizza, as taught in Italy’s Associazione Verace Pizza Napoletana (AVPN) certified schools.

The US pizza-making schools include authentic Italian certifications for pizza Napoletana but also offer certification in “American-style” pizzas, including techniques used in making New York,

36-HOUR ROOM TEMPERATURE FERMENTS AND CURCUMIN FLOW

By JENNIFER BAKER

*Guild Member and Enthusiastic
Bread & Pizza Maker, Chicago, IL*



Laura Meyer, a two-time World Pizza Champion, was one of the many pizza chefs holding free workshops at Pizza Expo 2016. Laura’s first title was in Parma, Italy, in 2013 for the Pizza in Telia category. She is the first female and the first American to win the title. In 2014, Laura won Best Non-Traditional pizza at the Pizza Expo. She is demonstrating multi-purpose use of Sicilian dough.



Turmeric Spice Pizza is baked with Calabrian spicy peppers, and fresh mozzarella.



Chicken Paprikash, a famous Hungarian dish is usually served with noodles, was modified into a non-traditional pizza. The chicken is topped with sour cream and garnished with dill pickles.



ABOVE L-R: Nicky Giusto of Central Milling in Petaluma, CA, discusses the use of stiff levain for his Sprouted Red Wheat Focaccia (shown in photo). There was considerable interest at the Expo in this light and airy crust. The dough contained 30% sprouted wheat and 2% levain.

Chicago, Detroit, and St. Louis pizzas. When I spoke with Tony Gemignani, 11-time World Pizza Champion and owner of the International School of Pizza, at Pizza Expo 2016, it was clear to me that he is helping to drive pizza-making to artisan standards. Tony advocates the use of various preferments for his pizza doughs, which are made from organic wheat and use of grape and fig starters. Other innovative techniques that he believes will advance the pizza industry include the use of a bran starter made from a 2–3 day soak of organic bran that is overhydrated with the water used to make the starter. It is a time-consuming process that results in a fragrant, nutty-tasting dough.

Certification is not a prerequisite to participating in pizza challenges in the US or Italy, but it certainly has been a stepping-stone to success for many contestants. The education provides basic knowledge, allowing a student to develop his or her own unique skills and resulting in pizzas that judges appreciate. Even in the traditional Napoletana division which has strict dough-making rules, one contestant used a mother starter, and others had 28- and 36-hour room temperature ferments.

In the non-traditional pizza competition, variations included Hungarian Chicken Paprikash Pizza with sour cream and



LEFT: Paprika Pizza is made with paprika dough and topped with pistachio cream and fresh mozzarella.



Matt Cappel of Capo's in San Francisco won "Best of the Best" at the 2016 Expo for his cast iron skillet pizza called "Crown Point." Matt used a Detroit-style crust that is par-cooked and baked twice more: once after the cheeses are melted, and again after vegetables are added before the final toppings.

pickles, a rye-crust Reuben Pizza complete with sauerkraut, Russian dressing, and Swiss cheese, and a Tater Tot Pizza. Matt Cappel of San Francisco won the "Best of the Best" award with a cast-iron baked pizza that was topped with sharp cheddar, mozzarella, garlic, red onion, Peppadew® peppers, broccolini, wild arugula, basil, balsamic reduction, oregano, and grated Parmesan — a totally vegetarian option.

Pizza Expo also offers various workshops and classes to educate attendees. Winners of prior years become experts in the field and often demonstrate the making of their pizzas at subsequent Pizza Expos.

Recent Pizza Expos have also showcased the importance of serving great beer with great pizza. Craft beers have their own pavilion at the exhibit hall, where you can taste the latest and greatest beers with your favorite pizza.

You will never leave hungry from Pizza Expo. In fact, you may leave satiated and spoiled, with a belly full of great pizza and beer and a head full of information from classes, workshops, and conversations with exhibitors and contestants. And, that "chain" pepperoni pizza will definitely lose its appeal.

Next year's Pizza Expo is scheduled for March 28-30, 2017, in Las Vegas, NV. ☀

ASHeville ARTiSan BReaD BaKeRS FeSTiVaL2016....

ALL PHOTOS: WES MCCREADY (UNLESS OTHERWISE NOTED)





**CeLeBRaTiNG
LoCaL FaRMERS
MiLLeRS & BaKeRS
APRIL 16-17
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APRIL 23, 2016

HOSTED BY :: PONSFORD'S PLACE
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ABOVE: Craig Ponsford talks to Carol Brownson and Paul Wermer. FAR LEFT: Trays of sweet bites were among the many fresh-baked refreshments offered. LEFT: Andy Clark (left) of the Guild Board and Nicky Giusto of Central Milling. Nicky is wearing a T-shirt from Andy's bakery.



CENTER LEFT: Jill Valavanis of the Guild staff waits outside Ponsford's Place before the Guildhall Gathering. LOWER LEFT: Frank Sally of Fournée Bakery and Leslie Mackie of the Guild Board. LEFT: Craig Ponsford's jacket from the 1996 Coupe, signed by other participants. ABOVE: Ponsford's Place uses some unusual flours such as sauvignon blanc skin flour.



PHOTOS: (AT RIGHT AND CENTER) JIM VALAVANIS

PHOTOS: LAVERNE DICKER (UNLESS OTHERWISE NOTED)

Kouign Amann

BASICS AND FLAVOR VARIATIONS

By **BRIAN WOOD** Guild Member and Owner – Starter Bakery, Oakland, CA

Pastries in the bakery case have undergone significant upgrades in the last several years, with increased focus on well-crafted laminated dough. Most of the more popular pastries are not new items. Mostly they are revivals, mash-ups, or concepts that have been slightly repackaged.

One notable presence is the revival of the Kouign Amann, a traditional pastry from Brittany. The name comes from the Breton dialect of the Celtic language and translates as “Butter Cake.” This hyper-palatable pastry has met its match in the insatiable American appetite for decadence, extravagance, and indulgence. Traditionally, these pastries are unfilled, though many modern versions include various fillings or finishes to elevate the flavor profile. This article will discuss some ways to incorporate new flavors and adjust certain variables to create interest, while respecting this pastry’s essential characteristics. But before we look at the variations on Kouign Amann, a review of the basics will give you a solid foundation.

FORMULATION & MIXING

Kouign Amann dough is similar to other yeasted, laminated doughs in formulation, but has some noted modifications that set it apart from others in the category. The primary ingredients that differ in percentage in the base dough are water, sugar, salt, and fat. Kouign Amann dough benefits from a stiffer texture (55% hydration), as well as less sugar (8% FW) than the average croissant formula. Salt (2.9% FW) is elevated for flavor and texture and salted butter (10% FW) is used at up to twice the amount than croissant for flavor and texture. The more obvious deviations are in the lamination process where salted butter (50% DW) is folded in, but sugar (up to 40% DW) is layered in as well.

When mixing the base dough, be careful not to build too much strength. All ingredients can be added to the bowl at once, no staging required. Following ingredient incorporation, continue mixing until the dough is developed to a short mix; this will be sufficient, as the dough will gain some strength during the lamination process. The DDT is 74°F and the dough should

have one hour of fermentation at room temperature before being retarded for at least two hours in advance of lamination.

LAMINATION

The basic principles of lamination apply. However, two key modifications create the Kouign Amann’s uniqueness. Salted butter, used at 50% of the dough weight, adds density to the texture and boosts the flavor profile. Second, roll-in sugar adds layers of sweetness and moisture. Incorporating these roll-in ingredients well requires that the butter texture be firm, yet malleable. The folds, or series of folds, and then the final sheeting should be spaced at 30-minute intervals.

Similar to a classic process for croissant, Kouign Amann is laminated with three single folds. Do the first single fold as normal, but do the second fold with sugar. To accomplish this, spread a thin layer of sugar over the surface of the dough, and then complete the fold. Rest the dough in the refrigerator or freezer for 30 minutes and then complete the third single fold with another thin layer of sugar. Return the dough to the refrigerator or freezer for 30 minutes before final sheeting.



FROM LEFT:
Completing a single fold with sugar. Spread a thin layer of sugar over the dough for the second and third folds.

FINAL SHEETING & MAKEUP

The thickness of the dough after the final sheeting should be about $\frac{1}{4}$ ". Assuming the cut portions will be 4" x 4", sheet the dough width to 16.5", rotate 90 degrees, and then sheet down to $\frac{1}{4}$ " thick. Unroll the dough onto a work surface covered in a thin layer of sugar and top the dough with a thin layer of sugar. The actual dimensions of the cut dough will vary, depending on pan size. As a general rule of thumb, the area of the dough should be about 40% more than the area of the pan.

Kouign Amann can be baked in a ring mold, a pan, or even free-form. For individual size pastries, an oversized muffin tin, or taller ring mold works best. To achieve the signature, caramel-intense crust, brush the pans with salted butter and then line with sugar. Fold the corners of the square of dough towards the center of the pastry, and then deposit into the pan or ring. Because the pastries are coated in sugar, there is no need to egg wash. The final proof will be about 90 minutes at 80°F, with humidity at 65%.

BAKING

The baking process for Kouign Amann is quite different than for croissant or Danish, due to the high sugar content and thickness of the dough. A rack convection oven, 350°F convection with 1-2 seconds

of steam, for a 20–24 minute bake cycle, will yield a pastry that is a golden caramel color. After removing the pastries from the oven, turn them out of the pan to prevent sticking.

VARIATIONS

Since Kouign Amann is such a new product for the American audience, bakers and pastry chefs have been able to exercise a lot of freedom in their interpretation and presentation of what it is. Versions range from a traditional approach with interesting fillings to significant adjustments to the base formula. One should be careful in adapting the formulation and process too much or by simply using croissant dough as a stand-in. Common base alterations include modifying the quantity and type of butter, or even omitting the roll-in sugar. Although croissant dough can look like Kouign Amann if shaped in a similar way, making sweeping base formula changes will not give you Kouign Amann's traditional attributes of intense, salty/buttery flavor, dense texture, and crisp-caramel notes. As someone told me about croissant-dough Kouign Amann she had recently tasted, "It wasn't really a croissant, but it wasn't really a Kouign Amann, either."

Like many products in the pastry chef's repertoire, Kouign Amann lends itself

well to variations of seasonal flavor and innovation. Beyond fillings such as custards, nut creams, seasonal fruits, and nuts, flavor can be added in other ways as well. To prevent a soggy, compact base layer, deposit wetter fillings over a drier-textured inclusion like nuts, chocolate, or streusel. The base dough, the roll-in butter, and the roll-in sugar can all be flavored with spices, citrus zest, chocolate, etc. Flavor can also be added post-bake by dredging the baked pastries in cinnamon sugar or icing with a flavored fondant.

One of the most exciting things about baking is the ability to adjust and adapt and impart a unique presentation to an item. Through knowing the base formulation and impact of changes, one can create interesting variations on an original, while still retaining defining characteristics. Finding balance between the qualities of a traditional concept and added contemporary flair keeps both the pastry chef and customer interested and coming back for more. ☀

Starter Bakery's award-winning Kouign Amann has a growing fan base in the San Francisco Bay Area. One reviewer said, "Once you taste this treat, you will bemoan all your prior wasted years on this planet without them."



FROM TOP: Spread a thin layer of sugar over the dough before cutting. Fold the corners of the dough to the center and then deposit in the prepared pan.

Kouign Amann

Contributed by BRIAN WOOD

Kouign Amann is an indulgent, traditional French pastry, similar to a croissant – but so much more. This decadent treat is made by rolling out and folding together layers upon layers of dough with salted butter and sugar, then baking in a butter-and-sugar-lined pan, resulting in an incredibly rich, sweet-and-salty experience.



Kouign Amann
with Poached
Pear and Almond
Frangipane

LAMINATION

- Incorporate sugar during the 2nd and 3rd folds by spreading a thin layer of sugar over surface of dough and then completing fold.

MAKEUP

- Use ring molds or oversize muffin pans. Prepare them by brushing with melted salted butter and dusting with sugar.
- Calculate dimensions of dough squares to match pan size – typically about 40% larger than mold diameter.
- Perform final roll out, choosing a final width that minimizes scrap during

the next step. For example, for 4" x 4" dough squares, first sheet dough to 16.5" wide, rotate 90°, and sheet to ¾" thick.

- Cover work surface with a thin layer of sugar. Unroll dough onto prepared work surface. Top dough with a thin layer of sugar. Cut into squares.
- Fold corners of square toward center, then place in prepared mold or pan.

BAKE

- After removing from the oven, turn the pastries out of the pan to prevent sticking.

KOUGIN AMANN

Total Dough Weight		2.850 kg				
Total Détrempe Weight		1.500 kg	Total Fermented in Prefermented Dough		8.21%	
TOTAL FORMULA			PREFERMENTED DOUGH		FINAL DOUGH	
Ingredients	%	kilograms	%	kilograms	%	kilograms
Bread Flour*	100.00	0.848	100.00	0.070	100.00	0.779
Water	51.23	0.435	65.00	0.045	50.00	0.389
Salt	2.83	0.024	2.00	0.001	2.90	0.023
Osmotolerant Instant Yeast	1.84	0.016			2.00	0.016
Instant Yeast	0.05	0.0004	0.60	0.0004		
Salted Butter	9.18	0.078			10.00	0.078
Sugar	7.34	0.062			8.00	0.062
Nonfat Milk Powder	4.36	0.037			4.75	0.037
Prefermented Dough					15.00	0.117
Totals	176.82	1.500	167.60	0.117	192.65	1.500
Roll-In Salted Butter	50.00 [†]	0.750				
Sugar	40.00 [†]	0.600				
Salted Butter, melted		As Needed				
Sugar		As Needed				

*Hard red wheat (low protein)

[†]Based on total détrempe weight

PROCESS – Kouign Amann

Preferment

		Prefermented Dough
Mixing	Type of mixer	Diving arm
	1 st speed	Until incorporated
	Dough temperature	70°F

Fermentation	Length of time	2:00
	Temperature	70°F
	Retard	3:00–18:00

Final Dough

Mixing	Type of mixer	Diving arm
	Mix style	Short
	1 st speed	0:04
	2 nd speed	0:01
	Dough temperature	73°F–76°F

Fermentation	Length of time	1:00
	Temperature	70°F

Détrempe Prep	Preshape	10"x15"
	Rest	2:00
	Temperature	40°F

Roll-In Prep	Soften	Plasticize using any method
	Preshape	10"x7"

Lamination	Lock-in Folds	Standard 3 single with 0:30 rest after 2 nd ; see Process Notes
	Final rest	0:30
	Temperature	40°F

Makeup	Sheet	¼"
	Shape	Kouign Amann; see Process Notes
	Proofing device	Prepared molds; see Process Notes

Proof & Bake	Final proof time	1:30–2:00
	Temperature	80°F
	Humidity	65%
	Oven type	Convection
	Total bake	0:20–0:24
	Temperature	350°F
	Steam	1–2 sec

Seeking Out the Best:

TRADITIONAL SOURCING & IN-HOUSE MILLING

By JASON RADUCHA

Guild Member & Founder/Baker of Noble Bread, Noble Eatery, & Noble Granary – Phoenix, AZ

Over this past summer, a professor friend of mine came to visit me here in Phoenix. He said to me, “Look at the world with a healthy level of dissatisfaction.”

Years ago, I stumbled upon this dissatisfaction when buying bread. I would go to supermarkets, Mom-and-Pop stores, and bakeries all over Phoenix. I was never satisfied. It wasn't until 2009 that I figured out why. I was reading a story in *Slice* about the Pizza Cognition Theory, and the theory states, “The first slice of pizza a child sees and tastes ... becomes, for him, pizza.” This was so true for me. I yearned for bread that I remembered from growing up with my Nana in the suburbs of Chicago.

Fast forward to 2012, and I was ready for a career change – what would eventually become Noble Bread, Noble Granary, and Noble Eatery. The hardest thing was choosing a name. How do you convey a thought or emotion that properly represents you? After much deliberation and scribbling on note pads all over my desk, the word “noble” stood out. It means “possessing outstanding, very high or excellent qualities or properties.”

I wanted to create a bread like that, with a dark, bold crust and open crumb, made from the best ingredients I could get my hands on.

Noble Bread today is a microbakery specializing in naturally leavened stone hearth-baked breads. We use only organic ingredients and a growing portion of our grains are milled in-house. Noble Bread spawned Noble Eatery, a 25-seat, rustic, lunch-only restaurant with a menu that changes daily. It serves as a relaxed, intimate storefront for the breads we bake. Noble Eatery serves midday meals that pay homage to grains and legumes. Everything is cooked in our wood-burning oven.

An item that is unique to Noble Eatery is our sandwich. The bread used for our sandwich is inspired by a Turkish-style pide. Pide is similar to a pita but utilizes a higher hydration and whole grains. This bread showcased our rustic sensibility and the grains that are the foundation of the Noble brands. The grains included in the pide change regularly to reflect what we are inspired by and grains that are milled in-house.

When you bake bread with only three ingredients – flour, water, and salt – it is imperative to seek out only the best.

Noble Granary, a project founded in November 2014, allows us control over the ingredients we bake with and lets us support local organic farmers. We mill grains fresh, on a horizontal stone mill, to deliver the most flavor and nutrition into our breads and to support the grain economy. Our mission is to restore traditional sourcing for our grains and flours by directly connecting to the farmer.



PHOTOS: MARK LIPCZYNSKI

Currently, we mill a few different varieties of wheat and grains. We mill White Sonora, Red Fife, durums, Yecora Rojo, Khorasan, Flint corn, rye, and various varieties of barley. Ancient and heritage grains are all the rage due to their flavor and nutrition, but unless they are processed in a way that harnesses their potential, all of those advantages can be destroyed. That is especially unfortunate, considering their lower yield and higher cost to grow. We strive to do everything possible to showcase the hard work of the farmer.

When it comes to flour, source, process, and freshness are everything. We want to bring premium grains and flours to the general public and educate our customers so that they understand why we charge \$7 and more for a loaf of bread. We are proud to be part of a group looking to make a change, and that change needs to happen here with all of the members of The Guild. ☀



NOBLE BREAD PIDE

Contributed by Jason Raducha

This Turkish-inspired flatbread uses whole grain flours and elevated hydration to achieve its rustic character.

PROCESS – Noble Bread Pide

Mixing	Type of mixer	Hand
	Length of time	Until incorporated
Fermentation	Length of time	3:00
	Temperature	76°F–78°F
	Number of folds	3
	Timing for folds	0:45
	Retarding time	Overnight
Shaping	Divide	125 g
	Preshape	Round
	Proofing device	Covered plastic dough bin
Proof & Bake	Proofing time	3:00
	Temperature	76°F–78°F
	Shape	6" disk
	Temperature	800°F–900°F
	Oven type	Wood-fired
	Total bake	90 sec

INGREDIENTS

Type 85 flour yields a softer mouthfeel than whole grain.

PROOF & BAKE

- Noble Bread pauses the process after preshaping and the 3-hour proof, and then bakes the pides one at a time as customers order them.
- Load pide using a baker's peel. Rotate the loaves periodically to avoid excessive scorching.
- A deck oven or home oven with a baking stone can be used at its highest temperature setting. The reduced temperature will necessitate longer baking times.



NOBLE BREAD PIDE

Total Dough Weight		5.000 kg
TOTAL FORMULA		
Ingredients	%	kilograms
Total Flour	100.00	2.744
Type 85 Flour	50.00	1.372
Whole Wheat Flour	30.00	0.823
Whole Grain Flour*	20.00	0.549
Water	80.00	2.195
Sea Salt	2.00	0.055
Instant Yeast	0.20	0.005
Totals	182.20	5.000

*Baker's choice.

ADJACENT PAGE FROM TOP: Noble Eatery sign – Bites and Midday Meals. Little Miss BBQ Turkey Sandwich with goat horn chiles, mozzarella and arugula. Slicing Noble Bread's Organic 9-Grain Bread.

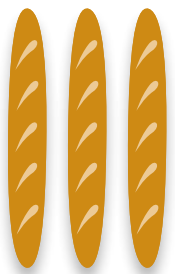


LEFT: A pide being stretched out on a peel before being put in the oven. BELOW: Pide awaiting filling.



LEFT: Pide in the glow of the fire in the wood burning oven. BELOW: Pide being taken out of the wood burning oven.





Laminated Baguette

By **ROGER GURAL** Guild Member and Owner, Arcade Bakery, New York, NY

The Laminated Baguette is a decorative baguette that I developed during the tryouts for Bread Bakers Guild Team USA 2012. My first exposure to a laminated baguette was in Christian Vabret's book *Tours de Main, Pains Speciaux*. There he uses a pâte fermentée with locked in butter and chopped olives, shaped as a twist.

I initially experimented with laminating all the dough but became concerned that the judges might not consider it a baguette if it were made up entirely of laminated dough. To side-step that criticism, I decided to laminate only a portion of the dough, thin it out, and wrap it around a traditional baguette. In this way, you got the interesting aesthetics from the laminated baguette exterior, but it retained some of the characteristics of a traditional baguette inside.

To standardize the shape, the laminated baguettes are baked in a filet pan. This also prevents too much color on the bottom of the baguettes if they are baked

in a deck oven. Although the pan helps the aesthetics of the final product, it does limit the oven spring of the baguette, and the interior tends to be very tight. For this reason, I vastly prefer to eat a traditional baguette.

I would recommend using your favorite baguette formula for the interior baguette. It is possible to laminate most baguette formulas, but if they contain a higher hydration, it increases the difficulty of achieving clean layers. An alternative, if you want to make the lamination process easier, is to mix a lower-hydration baguette for laminating. It would also be possible to try just wrapping croissant dough around the traditional baguette, but this would make it slightly sweet, so I have never tried this.

One trick we use to help with the lamination is to sheet the baguette dough down to 12mm, cut the dough in half and place it on top of itself, and sheet it down again to 12mm. We then place the butter on the dough for the lock-in. This gives the dough more strength and

makes it easier to work. We also find that it helps if the dough is more cold and the butter more soft than is typical with croissant lamination. Best aesthetics are with a double and single fold; however, at our bakery we do two double folds, as we do with all our other laminated doughs. Another tip: after the dough is locked in and the folds are done, it may be necessary to thin the dough in steps, placing it in the freezer occasionally before it is sheeted down to 2mm.

Once the dough is sheeted down to 2mm, we cut it into 16" by 4" strips and place them in the freezer, six on a parchment-lined metal grill. Once they are frozen, we wrap them in plastic wrap until ready for use. For shaping the baguettes, we pull the frozen strips out of the freezer, invert them onto a wooden bagel board, and place it in the fridge. They tend to stick to the parchment as they thaw. After the rest, shape the baguette to about 14" and place the cylinder seam-up on top of the cold laminated baguette strips. Wrap the strip around the cylinder and seal the seam carefully, ensuring the seal. Roll out the baguette to the desired length and place it in the sprayed filet pan. At the bakery we dip some of the baguettes into a mixture of poppy and sesame seeds and pretzel salt, or top them with just a little salt. After the baguettes are shaped, they are scored before proofing with the saucisson cut in the style of a Pain Viennois.

Proofing is longer than a regular baguette. Since the loaves are already scored, they should be proofed enough to avoid tearing. Bake time is 5-7 minutes longer than the traditional croissant at the same temperature. ☀



FROM LEFT: Shaped baguette, ready to proof.
Final shaping - wrapping the laminated layer around the baguette.

Laminated Dough

Contributed by ROGER GURAL

LAMINATED DOUGH

Total Dough Weight	5.454 kg	
Total Détrempe Weight	4.545 kg	
TOTAL FORMULA		
Ingredients	%	kilograms
AP Unbleached Flour*	100.00	2.688
Water	66.00	1.774
Salt	2.10	0.056
Fresh Yeast	1.00†	0.027
Totals	169.10	4.545
Roll-In Butter	20.00‡	0.909

*Hard winter wheat (11.5% protein)

†If using instant yeast reduce to 0.4%

‡Based on total détrempe weight



PHOTO: MATTHEW SALACUSE

PROCESS - Laminated Dough

Mixing	Type of mixer	Spiral
	Mix style	Improved
	1st Speed	0:03–0:05
	2nd Speed	0:02–0:03
	Dough temp	75°F–78°F
Fermentation	Length of time	1:00
	Temperature	75°F
	Number of folds	3
	Timing for folds	0:20
	Retard	12:00
	Temperature	40°F
Détrempe Prep	Preshape	Sheet to 12 mm, cut in half, stack halves, and re-sheet to 12 mm
	Rest	Until almost frozen
	Temperature	Freezer
Roll-In Prep	Soften	Plasticizing using any method
	Pre-shape	To fit dough
Lamination	Lock-in	Fold over to meet in the middle
	Folds	1 double and 1 single with no rest
	Final rest	1:00 minimum
	Temperature	Freezer
Makeup	Sheet	2 mm
	Divide	4" x 16" rectangle
	Storage	Freeze until ready to use

LAMINATION

- Dough dimensions depend on batch size and are optimized for the sheeter.

Laminated Baguette

A baguette wrapped in laminated dough, which creates a flaky, buttery crust.

MAKEUP

- Thaw laminated dough rectangles in refrigerator until flexible, about 1 hour.
- Place baguette on laminated dough rectangle seam side up.
- Wrap laminated dough around baguette and seal seam.
- Roll to elongate.

BAKE

- The loaves may have to be turned in the filet pans to ensure even coloring.

LAMINATED BAGUETTE

Total Weight	9.090 kg	
TOTAL FORMULA		
Ingredients	%	kilograms
AP Unbleached Flour*	100.00	5.168
Water	73.00	3.772
Salt	1.90	0.098
Fresh Yeast	1.00†	0.052
Totals	175.90	9.090
Laminated Dough	As Needed	
Seed Mix‡	As Needed	

*Hard winter wheat (11.5% protein)

†If using instant yeast reduce to 0.4%

‡Optional; 100% sesame seeds, 100% poppy seeds, 25% pretzel salt

PROCESS - Laminated Baguette

Mixing	Type of mixer	Spiral
	Mix style	Short
	1st Speed	0:05
	Dough temperature	75°F–78°F
Fermentation	Length of time	1:00
	Temperature	75°F
	Number of folds	3
	Timing for folds	0:20
	Retard	11:00
	Temperature	40°F
	Length of time	1:00
Shaping	Divide	300 g
	Preshape	Cylinder
	Resting time	0:45
	Shape	16" baguette
	Shape	16" baguette
Makeup	Enrobing	See Process Notes
	Garnish	Dip in seed mix (optional)
	Scoring	Saucisson before proof
	Proofing device	Filet pans
Proof & Bake	Final proof time	1:30–2:00
	Temperature	75°F–78°F
	Oven type	Deck
	Steam	2 sec
	Total bake	0:25–0:30
	Temperature	470°F
	Damper open	Last 0:05–0:15

Zach Dog: Becoming a Baker



PHOTOS: THOMAS SCHAUER

By Zachary Golper

Guild Member, Owner, Bien Cuit, Brooklyn, NY
Semi-Finalist for the 2016 James Beard Award for Outstanding Baker

My mother never tires of telling the story of how, when I was five, she gave me a paper plate and asked me to draw a picture of what I wanted to be when I grew up. I went to work on a portrait of my grown-up self wearing a chef's coat ... On my head I wore a tall chef's toque, and in my hand I held a wad of dough. "Zach Dog," I wrote by way of a caption. In later years, I wondered what that scene had to do with a dog, until one day my mother cleared up the mystery.

"You were just learning to write, and D-O-G was your first-grader's way of spelling 'dough,'" she told me. "You wanted to be a baker!"

If only I had listened to my inner child, I might have saved years of trying to find myself and been a baker from the get-go.

But that primal event was buried somewhere in my memory bank when I found myself in Oregon at age 20, working on a 300-acre organic farm. It was the turn of the millennium, and many of the people I was hanging out with before that move were certain that the world was going to end. ... They were all

stocking up on flashlights, bottled water, and food rations. ... I didn't believe any of that end-of-the-world stuff. I just wanted to connect with the land and to connect with myself in a way that I hadn't yet.

The farm fit the bill. By night it was a meditation center, and by day a certified and diversified organic farm. We grew grapes for local wineries, a half dozen varieties of Asian pears, and lots of apples, maybe 30 different kinds. ... I got pretty good at driving the tractor, although I preferred to work by hand, as did most of my farm mates. I mastered the rhythmic art of swinging a sickle. I learned how to store and pack fruits and vegetables so they would keep longer, and that onions and garlic have to stay dry or they'll rot in the damp, bone-chilling fog that rises off the Umpqua River every day and descended on us every night, quite literally like a wet blanket. In time, I could judge how mature a fruit was by the color and texture of its skin. I could read how bountiful the yield from a certain tree might be, based on the strength of its branches.

Our goal at the farm was to work hard all day, then meditate a good part of the

night, saving a few hours for sleep. I was good at the work part and fair at the sleep part, but I won no prizes as a meditator. That's why, at 1 a.m. one morning when I should have been meditating, I was deep into a dream about bread that was so sensual it was borderline erotic. It felt real. As it turned out, that was because it was real. No question about it: I was awake, and I smelled bread. Not dream bread – real bread. And with that sweet scent as a lullaby, I slipped back into slumber.

This went on for days. But instead of growing accustomed to the smell of bread in the oven, I became more and more entranced by it. Nothing had ever haunted me so. ... Finally, I could no longer contain myself. I threw off my blanket and followed my nose. The aroma grew stronger, wrapped around me, and bore me uphill to where I came upon an ancient bread oven. It was situated in a "room" that consisted of a roof and no walls, yet the heat from the oven easily overcame the cold night air. Standing by the oven was a muscular guy with the strong back and hands of a baker. ... I'll call him Andres because he is a private man and will be pleased to remain undisturbed.

Andres looked up. "What are you doing here?" he asked by way of faint welcome.

"Your baking has woken me every night for the past week," I replied. "It's amazing!"

Andres stood there without saying anything. Telling him that his bread smelled amazing was like telling him it was winter or that we were in Oregon. He knew that already. I took his silence as an invitation to explain myself.

"I guess I'd like to watch you work."

"I'm not really interested in having anyone watch," he said. "if you want to work, well, that's another story. You can do that, but you need to be here on my schedule, and if that means starting at 1 a.m. or 3 a.m. or whenever, remember: The bread is the boss. We make it when it's ready to be made and the fire is right."

"Deal," I said, and I meant it. But true to form, I often slept well past the appointed hour.

Thankfully, Andres cut me some slack. Working at his side was like entering into a bread-making time machine. We made the dough in an unheated sheep barn by candlelight.

"Electricity creates negative vibrations," he said.

He explained that bread dough is a living thing and he wanted everything we did to come from a living thing. Philosophically, it made sense, but as I continued to spend chilly evenings with him, Andres' New Age common sense seemed punishing. Even though we had a big Hobart mixer (the same model used in many commercial bakeries), Andres insisted that we mix the dough by hand. It was an arduous process. ... After mixing, we would fold the dough and let it rest for half an hour.

"Remember: the bread is the boss. We make it when it's ready to be made and the fire is right." — Andres

We repeated this three times, then left the dough to reset for many hours as the starter worked its sorcery, digesting starch and releasing carbon dioxide into the dough, causing it to rise.

Making dough turned out to be more time-consuming than I imagined. After three hours I was eager to bake and create that irresistible aroma that had first summoned me to Andres' oven.

"Not so fast," he said. Andres was a proponent of long, cold fermentation. As I would later learn when I worked with some of the top bakers in the world, fermentation is the heart of bread making.

... The longer you allow things to ferment, the more complex and delicious the flavors will be.

... After mixing the dough and letting it ferment until it tripled in size, we were ready to shape it into loaves. The way Andres accomplished this deceptively simple-looking task was like a well-choreographed ballet starring two hands and a ball of dough. He was precise and elegant in his economy of motion and, like many great artists, he made his craft look easy. It wasn't. It would be years before I could truly shape dough with confidence and precision.



We often worked from one in the morning until one in the afternoon, mixing, fermenting, and shaping loaves, then leaving them in a cold room to develop more flavor for another two and a half days. On the third day, the loaves were ready to bake. Andres would light the wood fire at 9 p.m., and typically, about four hours later, the heat was just right. Finally, we began to bake, and soon I was swaddled in a cloud of bread perfume.

That experience changed my life. ... But at that time I had too much youthful wanderlust in me to listen to the inner voice that was urging me to bake.

“We made the dough
in an unheated sheep
barn by candlelight.”
– Zachary Golper

(Another) inner voice was telling me I had to go to Chile. ... I spent the next two years on a South American odyssey. In Mexico, I learned to speak Spanish. ... In Nicaragua I struck up a conversation with a grandmother who told me that, through all the years of war and terror, the thing she wanted most was to wake up and smell fresh mint in her garden. It took some time, but I made that garden for her. Then I breezed my way through Panama, Colombia, and Ecuador as a ranch hand, bartender, short-order cook. ... I finally made it to Chile, crossing the Atacama Desert on a rickety train that struggled up the mountains to Potosi, Bolivia.

... Then it happened – it being the same thing that drew me to Andres’ wood-fired oven. At 3 a.m. one morning there was the same siren smell of bread. I followed the aroma and came to a little shop. Inside, through the barred window, I saw a tiny, ancient, pale-skinned Native American woman covered from head to toe in traditional garb, leaving only her face and hands exposed. She was pulling perfectly shaped loaves from her oven, and they were very bien cuit.



Bear in mind that I hadn’t eaten any really good bread since I left the United States. It was all soft and kind of pasty, sort of like wannabe English muffins. From the Rio Grande to Tierra del Fuego, good bread is almost impossible to find. But somehow, in this city that claims to be the highest in the world, this woman, whose name I never learned, had mastered the bread baker’s art. She sold me a loaf. It cost less than a dime, but it was the real thing. The crust crackled like the bread from the best French boulangeries, and it tasted like it, too. Quite astonishing, all in all.

I realized then how much I missed good bread. And with that, I knew my travels were over. I returned to the United States and listened to that inner voice, the same one that guided my hand as a first-grader when I drew Zach and his “dog.” It had drawn me to Andres’ ovens and to that small bakeshop in Potosi.

And so I became a baker. ✨

From *Bien Cuit: The Art of Bread*, by Zachary Golper and Peter Kaminsky (Regan Arts, 2015). Reprinted with permission.

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www.thomasschauer.com

LISTENING TO THE BEANS

148 years of Cultivating Quality, Craft, and Artistry in Chocolate Making

PHOTO: AUDREY MA

I close my eyes and imagine the old school hustle and bustle that used to parade along San Francisco's piers, bringing to life the stories of the photographs that hang on the walls of our office. Commodities from around the world were off-loaded from ships and hauled over to the factories lining the streets not far from the water. Smack dab in the heart of it all stood the factory that my great-great-grandfather, Etienne Guittard, built in 1868. Coffee roasters and chocolate companies like Hills Brothers, MJB, Folgers, and Ghirardelli were our neighbors: a tight-knit community supplying the city with the highest quality products.

Of all of those San Francisco businesses, we're the last one that remains family-owned.

It wasn't until I was 26 that I managed to see a real cocoa pod (not including the miniature one on the cacao tree in our office lobby). With my dad, Gary Guittard, I spent over a week traipsing around jungles and farms in Venezuela, harvesting with farmers, and listening to conversations about flavor and fermentation boxes and sun drying. There were glorious fruits, with the tastiest baba, that were beyond my wildest dreams. My dad's expertise was combined with the expertise of the farmers: they can crush a handful of recently dried cocoa beans and tell whether they have too much moisture in them. Intuitive passion. What happens on the farm – from cultivating the trees, to harvesting the cacao, to post-harvest fermentation and drying – is an art unto itself, steeped in tradition.

The mantra is true: we are what we eat. Beyond that, we are what we make.

Guittard is the oldest continuously family-owned chocolate company in the country. Five generations of Guittards have lived and breathed cacao and chocolate for the last 148 years, while honing the art and science from the bean to the final



Chef Donald Wressell, Guittard's Pastry Chef, holds pieces of a Guittard 500 gram chocolate bar.

By **AMY GUITTARD**

Guild Member and
Director of Marketing
Guittard Chocolate
Company
Burlingame, CA

product. Yet that pales in comparison to the legacy of cacao itself.

The sweet treat we all know as chocolate has a rich history – the history of the cacao, the history of the farmers who cultivate it, and

the history of the crafter who makes it. While it's certainly not as old as baked bread, both share a narrative that lends itself to telling stories of people, tradition, and culture. Just looking at the flow of cocoa from the Americas to Africa to Indonesia inspires a simple appreciation for the history that these fruits contain. When you're enjoying chocolate in its simplest of forms, you're also taking a bite of antiquity redefined.

Respecting the heritage of these ancient cacao trees is not only central to how we make chocolate but also how we engage throughout our supply chain.

Guittard Chocolate is one of the few chocolate makers who collaborate with growers before the harvest. Whether we're working with the bold and traditional or the unique flavor characteristics of rare heirloom cacao varieties, we're constantly searching for an elusive blend or single origin bean that will create new and exciting chocolate experiences.

My grandfather, Horace, (or Popsi, as I called him) used to go on goodwill trips with what was then called the Chocolate Manufacturers Association. On those trips, he would meet with cacao farmers to learn about their farming approaches and post-harvest techniques in an effort to buy the best beans in each region. Not long ago many cacao bean buyers were moving away from an emphasis on origins in favor of consolidating their supply chains. In large part because of Popsi, Guittard resisted this trend, choosing instead to keep buying directly from the farms and processing each batch of beans individually to bring



out the best flavor. Today we're cultivating relationships beyond those that Popsi originally formed. My dad and I visit some of the same farms and continue to discover new ones, now with a new generation of farmers and cooperatives.

We're very exacting about finding the best beans; we craft new blends while using heritage techniques and original recipes from the days of our Sansome Street factory. Each type of bean has its own flavor traits. The challenge – and one we accept with great pleasure – is to adapt our process to the different characteristics of each cacao varietal and origin.

When we're sitting around the table evaluating a new blend or how to make that single origin from Ecuador or Venezuela or Peru really sing, what we're really doing is listening to how the beans want to be processed. We let the beans tell us how they want to be roasted. When we do so, the beans allow us to tell their stories of their origins, their terroir, and their heritage.

It's a creative process that allows us to celebrate the raw materials and steps that go into making chocolate, as well as the relationships created along the way. These treasured relationships mirror the individualities of the beans. The people who have worked beside us for many years are part of the story of our chocolate.

Chocolate making, while seemingly a highly mechanized endeavor, is an art that requires the crafter's gentle touch, perception, knowledge, and artistry at every stage. Knowing the right smells coming out of the roaster, the right texture coming out of the mills, the right flake coming off the refiners, and the right shine once it's deposited off the line requires a particular obsession.

Like true obsessives, we're never satisfied and are always looking to find new beans, make new blends, and try new methods. Over the past 148 years, our fundamental approach to making chocolate hasn't changed. What we do is an art, cultivated through quality, leadership, and relationships.

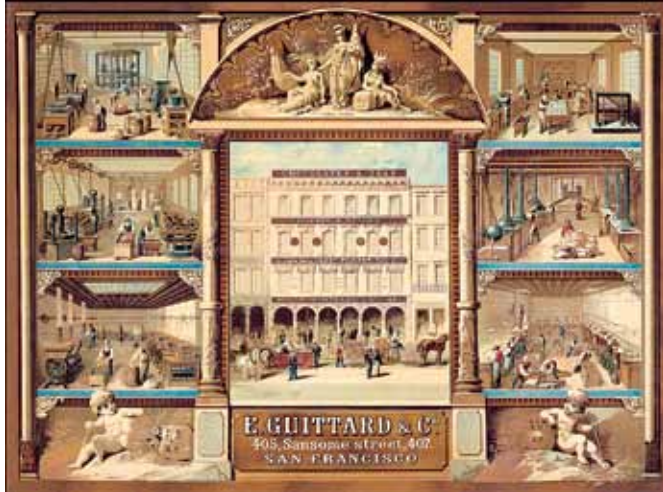


COUNTER-CLOCKWISE FROM TOP: Gary Guittard inspects a cocoa pod during a sourcing trip to Venezuela. Cut test of fully fermented and dried cacao beans. A cut test measures quality. The conching process is a crucial step in flavor development, where nuances and complexities are created in the chocolate's flavor.

Food binds us together. With chocolate, we celebrate life and culture, whether it's connecting you to the farmer who cultivated the cacao beans, or the family that made the chocolate, or the moment around the table when you can relish the joy of sharing the chocolate. ☀



ABOVE: Etienne Guittard, who founded E. Guittard & Company in San Francisco, CA, in 1868. LEFT: Scenes from the Guittard factory on Sansome Street. In addition to chocolate, they sold tea, coffee, spices, and "yeast powder."



Amy Guittard is the great-great-granddaughter of the founder of the Guittard Chocolate Company and the company's marketing director. She lives in the San Francisco Bay Area.

Guittard Chocolate offers classes for the professional at their Los Angeles-based Chocolate Studio. See the class list on their website: Guittard.com/events

The Guittard Chocolate Cookbook: Decadent Recipes from San Francisco's Premium Bean-to-Bar Chocolate Company (Chronicle Books August 2015), is available for purchase through Chronicle Books.

PHOTOS: GUITTARD CHOCOLATE COMPANY

Miche with Cacao Nibs

CONTRIBUTED BY CRAIG PONSFORD

This miche was developed to showcase the beauty and complexity of grains paired with rich cacao nibs.

NOTES

- Score the bread with a symmetrical pattern to preserve the round shape. A simple square is common and easy.

MICHE WITH CACAO NIBS			Total Flour Fermented in Levain 25.00%			
Total Dough Weight 16.000 kg			Type 95 High-Extraction Flour 41.67%			
TOTAL FORMULA			LEVAIN		FINAL DOUGH	
Ingredients	%	kilograms	%	kilograms	%	kilograms
Total Flour	100.00	7.918	100.00	1.980	100.00	5.939
Type 95 High-Extraction Flour	60.00	4.751	100.00	1.980	46.67	2.771
Whole Wheat Flour*	30.00	2.376			40.00	2.376
Pumpernickel Rye Flour	10.00	0.792			13.33	0.792
Water	90.00	7.127	55.00	1.089	101.67	6.038
Salt	2.00	0.158	0.10	0.002	2.63	0.156
Cacao Nibs	10.00	0.792			13.33	0.792
Starter	0.06	0.005	0.25	0.005		
Levain					51.78	3.075
Totals	202.06	16.000	155.35	3.075	269.42	16.000

*Hard red winter wheat

PROCESS - Miche with Cacao Nibs

Preferment

Mixing	Type of mixer	Levain
	1 st speed	Spiral
		Until incorporated
Fermentation	Length of time	12:00
	Temperature	75°F

Final Dough

Mixing	Type of mixer	Spiral
	Mix style	Improved
	1 st speed	0:03
	2 nd speed	0:03
	Dough temperature	75°F

Fermentation	Length of time	3:00
	Temperature	75°F
	Number of folds	2
	Timing for folds	1:00

Shaping	Divide	1.000 kg
	Preshape	Round
	Resting time	0:20
	Shape	Round
	Proofing device	Banneton

Proof & Bake	Final proof time	2:00–3:00
	Temperature	75°F
	Oven type	Deck
	Scoring	Anything symmetric
	Steam	3 sec
	Total bake	0:55–1:05
	Temperature	400°F
	Door open	Last 0:15–0:20

FRENCH FLOUR ADDITIVES

By JAMES MACGUIRE

Guild Member and Baking Instructor
and Food Writer – Montréal, QC

There are days when artisan bakers can feel very lonely. Many customers, and even some of our fellow workers, don't quite understand what we're striving to do and how much it takes. Because of that, it can be a nice change to visit France, where artisan bakers are not the exception, but the rule. For once, we belong. There are over 30,000 bakeries in France, and as we walk by them, we know that there are kindred spirits in the back (in Paris, basement workshops are the rule), making baguettes with only unbleached flour, water, yeast, and salt, everything we espouse. There – the war for artisan bread has been won – or more precisely, it was never lost. Or are our impressions of French baking as romanticized as those hackneyed images of old men in *bérets* with a baguette on the back of their bicycles?

Imagine the astonishment of Bread Bakers Guild Team USA when they were informed that all three of the flour choices for viennoiserie at the Coupe du Monde de la Boulangerie in Paris contained ascorbic acid. One of the flours contained the vertiginous dose of 100 parts per million. Compulsory ascorbic acid at the Coupe du Monde? What about other additives in French baked goods? We know that they exist, but just like at home, we can't picture anyone we know using them. The only French baguette that most of us know is the baguette de tradition we see at the Coupe du Monde de la Boulangerie and top Parisian bakeries. It's as if there were no other. Only malt products, gluten, and fava or soy flour (these last are an anomaly in the legislation which no good baker goes near) are allowed. But the Tradition category was created in 1993 to encourage artisan bakers to set themselves apart by producing top-

quality loaves which bread factories would have difficulty replicating, not to replace pain courant, ordinary baguettes.

French legislation allows 14 or so additives for ordinary baguettes that are listed by their cryptic European Economic Community code numbers (E 260 is acetic acid, E 262 is sodium diacetate, etc.). Sensing a bit of outrage on my part, Hubert Chiron, head of the International French Bread Association, was quick to point out that it's not because they're allowed that they're all being used, and that industrial producers are increasingly conscious of clean labeling. But there can be situations where certain of them are unavoidable.

Artisan bakers in France play hardball. With so much competition, bakers can't charge the prices that we see in America. As a result, some small boulangeries are producing as many as 1,500 baguettes per day, at a pace seldom seen on this side of the ocean, with bakers jogging from task to task. Labor and labor-related costs are huge, and in theory, the work week is limited to 35 hours. I shudder to think what the break-even point is for bakeries in chic Parisian neighborhoods. To save money and trouble, half of bakeries nationwide are buying their pastries from industrial viennoiserie. The explanation for the high levels of ascorbic acid in some flours is probably that many of those who still make their own viennoiserie do so two or three times a week and freeze them raw. Ascorbic acid makes this possible and can be a safety net by increasing the tolerance when making huge quantities of straight-dough baguettes. It is pretty much unavoidable when retarding shaped baguettes overnight to be baked the following day, a method which gives the work day a huge head start. With

this method, like a medication used to reduce side effects, monoglycerides and diglycerides (E 471) are then used to eliminate the tiny blisters which form on the crust of these loaves, something French consumers vehemently dislike.

In France as a whole, two-thirds to three-quarters of total baguette sales are the ordinary ones, though for some bakers, such as Daniel Anract, the head of the Paris and Paris region Bakers' Confederation, it's reversed, about 60% baguettes de tradition. I was surprised when he told me that the price difference was only 20%. Things add up, since families buy bread every day, but it could also be that many customers actually prefer the ordinary baguette. Perhaps older customers are reminded of the very white baguettes of the 1960s and 1970s. But others, too, might have their reasons. The "tradi" should be the best baguette, but the soft, dense, and overly chewy ones, which one too often encounters, make me feel a certain nostalgia for a well-made 1980s baguette: slightly oxidized, but light and delicate, with a very crispy, yet yielding, crust.

It's easy – a pleasure, in fact – to deplore additives, but knowing the constraints of the artisan baking trade in France, it is difficult to blame bakers who are caught in that rut. And the rut includes the milling industry and wheat growers. If additives were banned in all flours, it's doubtful that they could keep up. Most alarming is that the additives now include a long list of enzymes which don't have to be declared among the ingredients. Patrice Tireau, technical director at Minoteries Viron, was only half joking when he told me that enzymes can make a ball of dough bounce up and down from the floor like a tennis ball or stretch out without snapping

back like bubble gum. It's a panacea for millers faced with less suitable wheats, but with so much manipulation, so many problems solved in advance, can bakers really call their production their own?

Still, why ascorbic acid at the Coupe du Monde de la Boulangerie? I've been asked by more than one person why the Coupe doesn't allow teams to bring flour from their own countries. Apart from the pandemonium that it would cause, in a charming way, it misses the point. The Europain exposition is organized by EKIP (the association of French baking equipment manufacturers) as a showcase for their products, and 40% of their output is exported. The Coupe du Monde is a prestigious international baking competition run by the association as part of the event. It's also an opportunity for visitors to see French flours and other ingredients being put to use in both classic and innovative ways. It might be normal for the teams to use the same flours that so many French bakers use, but it seems only fair to notify teams in advance that ascorbic acid would be omnipresent in viennoiserie.

To be fair, there's a less grumpy way of looking at things. It must be said that as recently as the 1980s, it could be difficult to find a flour in France that didn't contain fava bean flour or ascorbic acid. In that way, baguette de tradition has been a great step forward. Any baker who wants to make them has no problems finding the flour. Those bakers who want to extend that ideal to the rest of their production can still do so, and there are some around. But just like us, there must be days when they feel a little lonely. ☀

There was always soup at my French Canadian mother-in-law's dinner table. After all, dinner was called *souper*. Once in a while she would wear a quizzical expression and wonder aloud why it was saltier than usual, as though it were all due to serendipity, and we would all laugh, because, of course, there had to be a reason.

There was a time when considerable numbers of French bakers calculated the quantities of salt in doughs as a percentage of the water, not the flour as was usually done. 60% hydration in doughs was very common, and 18 grams of salt per kilogram of flour or 30 g of salt per liter of water achieved the same result. It worked, just as the antiquated tin cup to measure the salt, used with great flourish at the Poilâne Bakery on Cherche-Midi, works as long as the other recipe amounts remain constant, and they're using the same cup and the same type of salt.

But Raymond Calvel railed against the inaccuracy of the salt-by-water method. In a 1981 article (p 188, *Une Vie, Du Pain, Et Des Miettes*, 2002), with his accustomed punctiliousness, he produced a grid documenting the increase in salt content as hydration percentages are increased. The desired 18 g of salt per kilogram of flour at 60% hydration becomes 19.5 at 65%. Tasting water with a 3% salt content makes it clear that it doesn't take much water-induced extra salt to make things too salty.

But what about fixed amounts of salt per kilogram of flour, as most bakers still practice? It's simply the lesser of two evils, because increased water to a fixed amount of salt will decrease the overall percentage of salt, a less glaring defect. 18 g of salt at 60% hydration

yields 11.1 grams in each kilogram of dough. At 70% hydration it falls to 10.4 grams, and to 9.6 grams in an 85% hydration ciabatta dough. This means that bakers who have increased hydration levels over the years, without increasing the amounts of salt, have unconsciously been following nutritionists' entreaties to cut down on salt content.

Establishing the amount of salt as a percentage of the total dough weight would solve not only the problems of varying hydration levels, but would also take into account ingredients such as raisins, walnuts, or extra butter in the brioche. Overly fastidious, perhaps? Cold, calculating, cookie cutter? And what to do about salty olives?

My problem in giving examples of how salt percentages by dough weight is that many decimals would be required to make them completely accurate. So far, my reasoning has been :

- * For instance, at 70% hydration, a baguette dough would typically be 1,000 g flour + 700 g water + 18 salt + 10 g yeast, for example, 1.728 g total dough weight.
- * To achieve a more accurate equivalent of 18 g salt per kilo of flour:

10.42 g of salt per kilogram of total dough weight x 1.728 (actually comes out to 18.005 g)
- * For 20 g of salt per kg of flour, 11.57 g of salt x 1.728 (comes out to 19.99 g)
- * For 22 g of salt per kg of flour, 12.73 g of salt x 1.728 (comes out to 21.99 g)

Test Bake for 10 Varieties of California Wheat



By **CLAUDIA CARTER** and **TENG VANG** of the California Wheat Commission in Woodland, CA
and **DAVE MILLER** of Miller's Bake House in Yankee Hill, CA *Claudia, Teng, and Dave are Guild members*

The California Wheat Collaborator meeting is an annual invitational event that brings together some key players of the wheat industry: breeders, farmers, handlers, millers, and end users. The collaborating labs evaluate and discuss quality characteristics of potential new wheat varieties under development by both public and private breeding programs. Durum, Hard Red Winter, and Hard White wheat varieties are sent out in advance to be milled, analyzed, and baked into bread or made into pasta.

In addition to the lab results, the California Wheat Commission was interested in including whole wheat evaluation of artisan bread. Artisan breads are growing as consumers are interested in new and exciting bread options. There is a shift by consumers from factory-baked breads to more artisan and specialty breads. Consumers are eager to buy fresh-baked artisan breads made with few ingredients (flour, water, salt, and commercial or wild yeast), found at the nearest farmers market or grocery store. Artisan breads are usually purchased no more than two days after being made.

Artisan bread has beauty in all aspects, and it needs to be made using a high-quality flour, as it is the major ingredient in the recipe. This is important, because the wheat quality affects the mixing process, dough handling, fermentation, shaping, baking, and the final bread itself. Furthermore, the natural whole wheat flour aroma directly affects the final bread flavor.

When evaluating each wheat variety, the Commission had the idea of assessing them as whole wheat. With this in mind, the Commission set out to find an experienced artisan baker to help analyze the quality and flavor profile for the 10 wheat varieties. Dave Miller, the owner of Miller's Bake House, agreed to help complete the project.

The artisan bread baking results were presented during the California Wheat Collaborator meeting held at University of California, Davis, on November 13, 2015. The bread loaves were displayed at the meeting. Breads from the 10 different varieties were sliced and shared with the attendees for a tasting panel.

MILLING AND TEST RESULTS

California Wheat Commission Lab Director, Claudia Carter, and Lab Assistant, Teng Vang, went to Miller's Bake House, where Dave Miller helped them to mill, bake, and evaluate 10 wheat varieties (seven pounds of each). Milling was performed with Dave's stone mill to obtain 100% stone-ground, whole wheat flour, a unique addition to this project. Immediately after milling each sample, the flour was used for baking. A 20-quart Hobart mixer was used for mixing, and small plastic tubs were used for dough fermentation. Dave provided his starter to add to the final dough formula. The samples were baked in Dave's deck oven.

The 10 stone-ground flours were later analyzed at the Commission's lab for quality (see Table 1). The flours were tested for dough performance using a



L-R: Dave Miller, Claudia Carter, Teng Vang.

Farinograph and Mixograph. Farinograph measures the dough behavior during mixing and also can be used to estimate water absorption of the flour. Relative mixing time, dough stability during mixing, and tolerance to mixing, or Mixing Tolerance Index (MTI), are important factors measured by this test.

Mixograph is another test that predicts overall dough strength. The key factors on the curves are: mixing peak time, bandwidth at mixing peak (wider bandwidth means stronger or more elastic), and the mixing tolerance (MT) or slope (see Figures 1 and 2). The slope tells us how fast the dough breaks down to over mixing. A more elastic dough will

WHEAT	FLOUR ANALYSIS				FARINOGRAPH			MIXOGRAPH	
Hard Red Winter	Protein (14%)	Ash (14%)	Falling Number (secs)	Gluten Index	Absorption (%)	Stability (min)	M.T.I. (BU)	Mix Peak Time (min)	M.T.
209	12.85	1.24	379	86	81.4	2.6	63	3	12.5
201	12.97	1.38	377	85	75.4	2.9	52	3.5	10.5
214	13.00	1.29	409	89	79.6	2.7	71	3.25	12
212	13.18	1.46	422	91	78.4	6.9	30	3.75	7.5
203	13.53	1.40	345	49	79	1.9	69	2	13.5
205	14.22	1.36	382	43	85.5	2	77	2	18
Hard White	Protein (14%)	Ash (14%)	Falling Number (secs)	Gluten Index	Absorption (%)	Stability (min)	M.T.I. (BU)	Mix Peak Time (min)	M.T.
213	12.12	1.31	377	83	76.4	2.9	70	3.25	11.5
208	13.81	1.38	417	47	78.1	2.2	85	2.5	11
202	14.00	1.37	356	68	79.1	3.1	54	2.5	12.5
204	14.06	1.41	450	67	80.8	3.1	50	2.75	11.5

Table 1 Hard Red Winter and Hard White 100% stone ground whole wheat flours and dough characteristics.

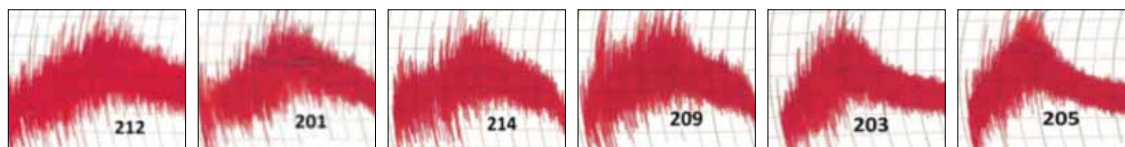


Figure 1 Hard Red Winter 100% stone ground whole wheat flours. Mixographs ranking from strong to weak (left to right).

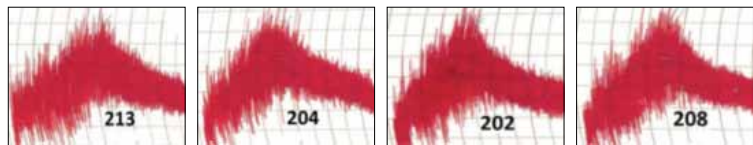


Figure 2 Hard White Winter 100% stone ground whole wheat flours. Mixograph ranking from strong to weak (left to right).



FROM LEFT: Dave's stiff levain. Grain feeding into the stone mill.

have a small slope value. Slope can be compared to the Farinograph MTI value.

NOTES FROM AUTHORS

TENG VANG I came to appreciate how an experienced baker like Dave can effectively use the lab analysis data and make changes to his formula to make it work. The water absorption and the amount of levain used were good, the timing of stretch and fold was on time, and overall dough handling for each wheat sample performed well.

CLAUDIA CARTER Dave was very careful during the milling and baking processes but acted quickly. He was in the milling room and then prepared the dough: mixing, watching and controlling the dough temperature, appearance, and aroma. He treated the dough with kindness and care, as though he were taking care of a baby. He respected each wheat sample and at times was surprised by the gluten strength, which affected the mixing and dough handling of the samples, but he knew how to continue the process.

DAVE MILLER I was surprised to receive a call from the California Wheat Commission, asking if I would like to collaborate with them in a test bake for 10 varieties of wheat grown in plots at UC-Davis.

Claudia Carter filled me in on the details: they wanted to see how these wheat varieties would fare when milled fresh and made into whole grain breads using a sourdough culture. This was a no-brainer. I said, "Yes." The date was set, and in the following weeks I received a very comprehensive lab analysis for each of the varieties: gluten index, development time, wet gluten, falling number, absorption, Farinograph reading, alveograph, etc. I've never, in my years of baking, had so much information. Now the question was how to process it all. I rarely get more than protein % when I receive a sample of wheat from a farmer. I'll typically do a test bake or two and decide whether I can work with it. If I'm happy with it, I order a year's worth and spend the next few months dialing it in. In this instance, with the Wheat Commission, we had one shot to get it right.

The lab analysis was a godsend. As I looked at the flood of figures that were provided for me, I realized why getting it just right with any particular wheat is so challenging. And right now, I have to admit that it can sometimes take nearly an entire year of working with a wheat before I feel like I am doing it justice.

These were all relatively high protein wheats, 13%–15%, so I

would have assumed at least a degree of uniformity in mixing tolerance, for example. But mixing tolerances were all over the map. As I looked across the columns at the figures for each variety, I spotted all sorts of contradictions. For those of you who routinely get full analyses for your flours, this is not news.

I settled on four numbers that would help me prepare for the test bake the most: P/L from the alveograph giving me the ratio of elasticity to extensibility, development time (in the mixer), absorption, and falling number (amount of enzymatic activity). I felt that the falling number could help me decide on the percentage of levain to include in the dough. Now, all of these tests are conducted using white flour, not whole wheat, so they were most useful to me as gauges for how the varieties might perform relative to each other. I used my experiences with wheats I've used in the past to set a standard formula that would change this way or that, depending on the numbers.

Teng and Claudia are great people – both are outgoing, friendly, and extremely knowledgeable, so it was an informative, slightly chaotic, action-packed day of milling, mixing, shaping, and baking. In the end, I was happy with the results. We were off on hydration for one or two of the doughs, which affected crumb structure, but, all in all, things went well. The flavors were allowed to shine through, which meant that we did our job.

I came away with an appreciation for what can be accomplished when science and hands in dough collide. 🌟



Dave scoring for final baking.



FROM LEFT: Proofing. Finished bread.



Standard Formula Bread

Contributed by **DAVE MILLER**

A standardized whole wheat formula for testing wheat varieties. The acidity is kept low to avoid obscuring the flavor of the wheat being tested.

sieve out and reserve the small particles, and mix the large chunks remaining in the sieve with the water. Let sit for about an hour. Then add the reserved powder, mix, and let ferment for 12 hours. It is now ready for use in Levain – 1st Build.

MIXING

- Dough development time varies by the type of wheat being tested.

PROCESS – Standard Formula Bread

Preferments – Levain		1 st Build	2 nd Build
Mixing	Type of mixer	Planetary	Planetary
	1 st speed	0:03	0:03

Fermentation	Length of time	3:00	3:00
	Temperature	80°F	80°F

Final Dough

Mixing	Type of mixer	Planetary
	Mix style	Short
	Hold back	Salt
	1 st speed	0:03
	Autolyse	0:20
	Add	Salt
	1 st speed	0:03
	Dough temperature	78°F

Fermentation	Length of time	3:00
	Temperature	75°F
	Number of folds	1
	Timing for folds	1:00

Shaping	Divide	794 g
	Preshape	Round
	Resting time	0:20
	Shape	Bâtard
	Proofing device	Linen-lined banneton

Proof & Bake	Final proof time	2:00
	Temperature	75°F
	Oven type	Deck
	Scoring	Baker's preference
	Steam	2 sec
	Total bake	0:45
	Temperature	Preheat to 535°F, drop to 500°F at load
	Damper open	Last 0:10

STANDARD FORMULA BREAD

TOTAL FORMULA			LEVAIN – 1 ST BUILD		LEVAIN – 2 ND BUILD		FINAL DOUGH	
Ingredients	%	kilograms	%	kilograms	%	kilograms	%	kilograms
Whole Wheat Flour*	100.00	2.326	100.00	0.035	100.00	0.149	100.00	2.142
Water	101.83	2.369	65.00	0.023	65.00	0.097	105.00	2.249
Salt	2.15	0.050					2.33	0.050
Starter†	0.75	0.017	50.00	0.017				
Levain – 1 st Build					50.00	0.075		
Levain – 2 nd Build							15.00	0.321
Totals	204.73	4.763	215.00	0.075	215.00	0.321	222.33	4.763

*Red and white wheat varieties

†Same composition as levains

BAKING WITH RYE – The Devil's in the Chemistry

By STANLEY GINSBERG — Guild Member and Proprietor, The New York Bakers

One of the biggest lessons I learned while baking my way through the 100+ rye breads that were candidates for my upcoming book, *The Rye Baker*, is that rye baking's greatest challenge comes from the unique chemistry that happens when rye meets water.

First, some Botany 101. All vegetable seeds share a similar structure. Beneath the husk, a fibrous, highly absorbent bran covers the kernel, enclosing a germ that contains the embryo, fat, sugars, and other substances; a starchy endosperm made up mainly of complex carbohydrates (polysaccharides); and outer layers that hold high concentrations of fiber, protein, fat, and a variety of microorganisms and enzymes essential to the plant's reproduction.

Water affects wheat and rye differently. When water meets wheat flour, it triggers the formation of gluten, the elastic protein polymer that gives a wheat bread its structure. When water meets rye, which lacks wheat's gluten-forming ability, it combines with polysaccharides in the endosperm called arabinoxylans, also known as pentosans, to form a viscous,

sticky gel. It's this gel that, like gluten in wheat doughs, traps baking gases and at baking temperatures hardens into the loaf's crumb.

But something else happens when flour meets water. In nature, when a seed gets wet, it germinates, activating a pair of enzymes, α -amylase and β -amylase, whose job it is to feed the embryo by breaking the polysaccharides (literally, "multiple sugars") into simple sugars like dextrose, fructose, and maltose.

In baking, the same thing happens, especially in high-extraction or whole grain doughs that contain part or all of the kernel's outer layers. In wheat doughs, that's a good thing, because the enzymes unlock the flour's hidden sugars without affecting the gluten, which is a protein. To encourage that activity, we use additions like diastatic malt and malted barley flour to increase the dough's enzyme content, long-duration preferments like poolish, biga, and *pâte fermentée*, and techniques like cold retardation to give the amylases time to work their chemistry.

In rye doughs, which are especially rich in polysaccharides, this so-called "starch attack" not only sweetens the dough considerably, it also degrades the gels that form the backbone of a rye bread's crumb structure. This can turn what should have been a proper loaf into a gummy doorstop.

Over centuries, Europe's rye bakers identified ways to manage starch attack. In some regions, they simply accelerated the bulk fermentation and proofing times to minimize the window

of amylase activity. In most of Europe's rye belt, however, they discovered by trial and error that amylase activity grinds to a virtual halt in acidic (pH 5.0–3.5) environments, i.e., sourdough.

European rye bakers use two types of sponge: leavening/acidification (Type 1) sponges and acidification-only (Type 2) sponges, which typically require the addition of commercial yeast. Type 1 sponges can be built on both wheat and rye, and include *lievito madre* and basic and Detmold 1-, 2-, and 3-stage sponges. Prefermenting at least 30% of total flour generally produces enough acid to inhibit starch attack.

A sponge's leavening power and acidity depend on hydration, temperature, and time. In general, hydration <80%, and fermentation at room temperature (68°F–70°F) favors yeast reproduction – and for longer fermentations (1–7 days), acetic acid formation. Wetter (100%–120%) sponges and higher temperatures (90°F–95°F) produce high concentrations of lactic acid and low yeast activity. My workhorse Type 1 sponge is hydrated at 100% and ferments at room temperature for 10–12 hours.

There are limits, however, to yeast and lactic acid bacteria (*Lactobacillus*) as enzyme inhibitors. That's because temperatures above 120°F kill both, while amylase activity peaks at 140°F–170°F – typical dough temperatures during the early stages of baking – before ceasing at 180°F. That's why most rye breads start their bake at 450°F–525°F and moderate down to 350°F–425°F after 10 or 15 minutes, with or without steam.

LYUBITELSKY RYE

Contributed by STANLEY GINSBERG

Scalds, which consist of flour, grain, spices, and/or malt plus boiling water, also are a way to manage the starch attack, but in the opposite direction. The boiling water kills off any microorganisms present in the dry ingredients, while it warms the dough to the ideal temperature range for peak amylase activity. The result is a sugar-rich addition to the final dough that both enhances the flavor of the finished loaf and provides a nutritional boost to the yeast and lactic acid bacteria. This strengthens the rise and acidity of the dough, the better to resist starch attack during baking.

Lyubitel'sky Rye, a fine-crumbed 84% Russian bread, provides a great illustration of how sour sponges and scalds work together in high-percentage rye breads. The sponge preferments almost 32% of the total flour, producing a balanced Type 1 leavening-acidification sponge, while the scald, which includes both rye flour and roasted rye malt, adds a musky, chocolatey sweetness to the bread and provides ample sugars for the yeast and LAB.

This is also a great eating bread, with nicely balanced sweet, chocolate, citrus-coriander, and sour notes, all encased in a tender crumb. And the best part is that unlike wheat breads, which become stale after a day or two, the polysaccharide gel structure of a rye bread will keep tender for a week to 10 days – another benefit of rye's unique chemistry. 🌟

Stanley Ginsberg is the owner of The New York Bakers (www.nybakers.com), an online vendor of professional baking ingredients to home bakers. His first book, *Inside the Jewish Bakery*, won the International Association of Culinary Professionals' 2012 Jane Grigson Award. His new book, *The Rye Baker*, will be published in September 2016 by W.W. Norton & Co.

Lyubitel'sky Rye is of Russian origin and resembles the more familiar Borodinsky Rye, but with a finer-textured crumb and – thanks to the sugar, molasses, and toasted rye malt – a sweeter, more chocolatey flavor.



PHOTO: SYLVIA SPIELER GINSBERG

LYUBITELSKY RYE			Total Flour Fermented in Levain 31.50%		Total Flour Fermented in Scald 15.75%		Total Flour Fermented in Opara 15.75%		Total Flour Prefermented 62.99%	
			Medium Rye Flour 37.38%		Medium Rye Flour 18.69%		Medium Rye Flour 18.69%		Medium Rye Flour 74.77%	
			Whole Wheat Flour 0.00%		Whole Wheat Flour 0.00%		Whole Wheat Flour 0.00%		Whole Wheat Flour 0.00%	
TOTAL FORMULA			LEVAIN		SCALD		OPARA		FINAL DOUGH	
Ingredients	%	kilograms	%	kilograms	%	kilograms	%	kilograms	%	kilograms
Total Flour	100.00	6.350	100.00	2.000	100.00	1.000	100.00	1.000	100.00	2.350
Medium Rye Flour*	84.25	5.350	100.00	2.000	100.00	1.000	100.00	1.000	57.45	1.350
Whole Wheat Flour	15.75	1.000							42.55	1.000
Water, 100°F	48.82	3.100	80.00	1.600					63.83	1.500
Salt	0.94	0.060							2.55	0.060
Instant Yeast	0.63	0.040							1.70	0.040
Water, boiling	27.56	1.750			175.00	1.750				
Starter†	5.51	0.350	17.50	0.350						
Whole Pale Malted Rye‡	3.15	0.200			20.00	0.200				
Unsulphured Dark Molasses	4.41	0.280							11.91	0.280
Sugar	2.52	0.160							6.81	0.160
Ground Coriander	0.47	0.030			3.00	0.030				
Levain							395.00	3.950		
Scald							298.00	2.980		
Opara										7.930
Totals	194.02	12.320	197.50	3.950	298.00	2.980	793.00	7.930	186.81	12.320
Coriander seeds, crushed		0.040								

*1.35% ash content; whole grain rye flour may be used but will give a denser, more acidic loaf

†100% medium or whole grain rye flour, 100% water, 10% starter

‡See Process Notes

PROCESS - Lyubitel'sky Rye

Preferments

Mixing	Type of mixer	Levain	Scald	Opara
	1 st Speed	Planetary with paddle Until incorporated	Planetary with paddle Until incorporated	Planetary with paddle Until incorporated
Fermentation/Rest	Length of time	10:00–12:00	10:00–12:00	3:30–4:00
	Temperature	72°F	150°F	72°F

Final Dough

Mixing	Type of mixer	Spiral
	Mix style	Short
	1 st Speed	0:10–0:12
	Dough temp	82°F
Fermentation	Length of time	1:00–1:15
	Temperature	72°F
Shaping	Divide	1.250 kg
	Shape	Bâtard
	Proofing device	9"x4"x4" greased Pullman pan
Proof & Bake	Final proof time	0:45–0:55
	Temperature	72°F
	Garnish	Crushed coriander seeds
	Oven type	Rack, no convection
	Steam	2–3 sec (or steam pan)
	Initial bake	0:10
	Initial temp	500°F
	Final bake	0:40–0:50
	Final temp	390°F
	Damper Open	Last 0:40–0:50

INGREDIENTS

- Scale and then roast the whole pale malted rye in a 400°F oven until brick red-brown, 18–20 minutes. When cool, mill into flour.

MIXING

- Dissolve the molasses in the water.
- Combine the remaining final dough ingredients using spiral mixer at low speed until evenly blended, 10–12 minutes.

FERMENTATION

- Ferment at room temperature until doubled in volume and surface shows cracking, 60–75 minutes.

SHAPING

- Divide into 1.250 kg pieces, place into greased 9"x4"x4" Pullman loaf pans, cover, and proof at 72°F until the dough has risen to within 1" of the pan rim and the surface shows cracks or broken bubbles, 45–55 minutes.

PROOF & BAKE

- Brush with water and apply crushed coriander seeds.
- Bake with steam for 10 minutes at 500°F.
- Open damper or remove steam pan, reduce temperature to 390°F, and bake to an internal temperature of at least 198°F, 40–50 minutes.
- Unpan and cool thoroughly before slicing.



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Mark Wescott
John Wu

Contributors

Jennifer Baker
Greg Carpenter
Claudia Carter
Colin Clark
Rosie Demmin
Mike Dickenson

Laverne Mau Dicker

Abe Faber

Jo Ferneau

Cymantha Fredrickson

Stanley Ginsberg

Sylvia Spieler Ginsberg

Zachary Golper

Amy Guittard

Guittard Chocolate

Company

Roger Gural

Tim Healea

Ciril Hitz

Nate Houge

John Jacobson

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Sandy Kim-Bernards

Leslie Mackie

Catherine Trujillo

Director of Operations

Cathy Wayne

Administrative Asst

Jill Valavanis

Tel 707.935.1468

Fax 707.935.1672

info@bbga.org

www.bbga.org

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