San Francisco Baking Institute Newsletter

what's rising

Baking and Pastry Arts School for Professionals and Enthusiasts

Winter 2007.Volume I

how to develop a formula

Didier Rosada

Rejuvenating an existing product line, answering specific customers needs, or evolving with new trends are just a few reasons why retail or wholesale bakers might decide to develop new products. Today, adding simple extra ingredients to normal baguette dough is generally not enough to satisfy the increasingly sophisticated customer palate. The baker must be more imaginative and creative.

Developing new products is a project that can be interesting and challenging at the same time. Adding ingredients to dough and working with specialty flours, while maintaining great flavor combinations, decent volume and nice appearance can seem to be a daunting and time consuming task. However, when properly executed, the result in the finished product will more likely achieve customer appreciation and will be very rewarding for the baker.

When planning formula development, here are the most important questions to consider:

- What kind of bread characteristics are we looking for? (Added nutritional value, use of specific seasonal ingredients, flavor profile, shapes, etc.)
- What kind of specialty flours (if any) will be used in the dough and in what proportion?
- What kind of preferment will be involved in the formula and how much?
- What mixing technique will be applied?
- How long will the first fermentation last?
- What weight?
- What shape?
- How long will the final proof be?
- How to score?
- And finally, what kind of baking process will be used?

In this issue of our newsletter, because of the limited space, we will address the first three questions. The article will continue in the next issue of our newsletter.

Bread Characteristics

The first decision to make is what type of bread you want to develop, and how it will be marketed to the consumer. Many breads are baked using whole grain flours or ingredients rich in fiber to answer the needs of customers looking for healthful choices. Breads can also be developed as signature items for a particular bakery, using regional or seasonal ingredients. Bakers should be encouraged to look around them for ideas and inspiration.

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"When baking, follow directions. When cooking, go by your own taste."

Laiko Bahrs

what's inside this issue ...

looking forward to a new year

Michel Suas
Founder

Another year has passed and I hope that you had a good, prosperous and satisfying 2006. At SFBI, we did a lot of exciting things last year. We introduced new pastry classes and added the Whole Grain Breads course. We also did quite a bit of consulting on various projects here in the U.S. and overseas. The two week trip to France for our Professional Training Program at the *Ferrandi School* in Paris was a success—some of our students got internship jobs in Paris and we are proud of them.

The SFBI team is fired up about what is coming in 2007. We have a few surprises up our sleeves.

First, we want you to keep coming back! You are part of SFBI's family. Seeing our students' skills go to another level brings us a lot of satisfaction and makes us eager to share even more knowledge with all of our students, so we have plans for new ways to do just that.

The BBGA Camp Bread is coming to SFBI again in May. I realize that it is like a lottery to enroll, due to the huge response and the limited space available. However, SFBI will still be here after Camp lets out if you want to visit us!

This year's Camp Bread is very important. The Bread Bakers Guild 2008 Team USA will be selected at that time to beat up the French again. *(It's okay; I was robbed of my national pride after the first U.S. gold victory over the French!)*

As the year begins, I want to let all of you know that we recognize that SFBI depends on the enthusiastic support of our students and clients. Your attendance at SFBI classes, purchase of baskets for our scholarship program (which has afforded several grateful students help with tuition) and use of our services for consulting is very much appreciated. I want to thank every one of you for your energy, enthusiasm, and friendship, which makes our jobs easier and so much more rewarding. Your support challenges us to continuously pursue new avenues to bring more to you. Again, thank you for supporting SFBI!

On behalf of everyone at SFBI and TMB Baking, we wish you a Happy New Year, Good Health and Happiness.

—Michel Suas

about sfbi

Since 1996, the San Francisco Baking Institute (SFBI) has trained hundreds of professional and aspiring bakers from all over the world. We have acted as the unofficial training site for several award-winning Baking USA Teams and hosted a variety of international groups—from countries including Russia, China and Japan—interested in bringing artisan baking back to their homelands.

SFBI is recognized within the baking industry as a place where artisan baking is respected, appreciated and celebrated. We are passionate about sharing our knowledge and enthusiasm with students and clients in an effort to raise the level of the craft.

career opportunities

SFBI is looking for good people who are passionate about baking and pastry to fill the following positions:

Baking Instructor: Are you an experienced baker or baking instructor looking for an exciting new opportunity? SFBI is now hiring!

Paid Intern: Interns at SFBI assist instructors in the day to day operations of the school while working towards elevating their level of baking and pastry competence. The Internship is six months long, Monday-Friday, 7am to 5pm or as needed. This position demands a lot of attention, dedication and hard work but the benefits are huge.

How to Apply:

To apply for the **Internship**, please send a resume, letter of interest, and contact information for three professional references to brian@sfbi.com

To apply for the **Baking Instructor** position, please send a resume, letter of interest, and contact information for three professional references to michel@sfbi.com

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Farmers markets, specialty food stores, and the produce section of grocery stores are great places to start. More adventurous bakers might extend their ingredients selection to products grown in other countries, or currently fashionable food, such as *Quinoa,* which is now commonly used in food and can be a great addition to bread.

Regardless of the types of ingredients selected, bakers should make sure that they can be added to bread dough without creating any damage to it or changing the bread characteristics to the point that customers might wonder what they are eating, as it is very important to keep in mind that we are still selling bread! Unusual ingredients might benefit from a bit of preparation before being added to the dough. For example, cooking wild rice is a must in order to make it possible to eat; roasting or caramelizing filberts before adding them to dough will enhance the final flavor of the bread; and soaking dry cranberries in orange juice, or dry pears in white wine, will complement their flavors.

Specialty Flours and Meals

Many specialty flours can now be found on the market. Each of them has its own characteristics in terms of baking performance and flavor. The most common ones are *whole wheat, rye, semolina* and *spelt* but other interesting flours are also available, such as *buckwheat (dark and light), corn, kamut* or *teff flour.*

Another very interesting type of flour is *high extraction* flour. Commonly called *"Type 80"* or *"Type 85"* in reference to the French way of classifying flours according to their ash content, these flours are produced by mills using a customized milling process

that maintains a larger portion of the endosperm, therefore creating a flour richer in bran and germ (excellent sources of minerals and vitamins). In addition to increasing nutritional value, these flours also provide great final product characteristics that are perceived as more traditional by customers: darker crumb, grayer crust and a more rustic flavor.

Grain meals are also a great way to increase nutritional value and add flavor to bread without changing the characteristic and texture of the crumb too much. A great example for flavor would be the use of *sunflower meal*. Its use in a formula will automatically generate a nice nutty flavor in the final products. *Flax meal*, rich in Omega 3, is a great way to increase the nutritional value of bread. Some meals are commercially available; others can easily be prepared at the bakery using a processor or an electrical grinder. When using specialty flours in significant proportions, the baker will have to make some changes to maintain a well-balanced baking process.

A description of these changes when using the main types of flour follows:

WHOLE WHEAT FLOUR

Made by milling and keeping 100% of *Hard Red Spring Wheat* (for its higher protein content) but also sometimes *Hard Red Winter* or *Hard White Wheat,* whole wheat flours come in different granulations. From extra coarse to extra fine, the baker can choose according to the desired final texture of the finished product. Extra coarse flour will result in bread with a coarse crumb texture while using extra fine flour allows the baker to change just the color of the crumb without too much effect to its structure and mouth feel.

Technically speaking, because of its higher amount of bran, whole wheat flour will have some effects on the dough characteristics: mixing, fermentation activity and strength. The bran of the kernel of wheat contains a lot of cellulose. This type of fiber absorbs a large quantity of water. To avoid penalizing dough consistency and gluten formation, the baker must increase the dough hydration during mixing.

Also, bran is naturally rich in minerals that are used as nutrients for the yeast. Fermentation activity will automatically be faster when working with whole wheat flour; therefore, a smaller amount of yeast will be needed to avoid excessive gas production that would otherwise shorten fermentation time and penalize flavor development.

During mixing, the bran contained in the flour will interfere with the bonding of the strains of gluten, creating a weaker gluten structure and dough a bit more difficult to handle, with lower gas retention and fermentation tolerance.

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Shorter mixing time, handling the dough very gently, and paying attention to the final proof are a must when working with whole wheat flour.

When a high proportion of whole wheat flour is involved in the formula (60% and up) it is better to score the bread right after shaping. The cuts will keep better definition but, more importantly, the dough will be scored when it still has good strength. Scoring the loaves after the final proof could trigger a collapsing of the dough due to its fragile gluten structure.

Breads with a high proportion of whole wheat flour should be baked at lower temperature for a longer time to make sure to dry them out well. Opening the door at the end of baking when the desired crust color is attained is a plus and will avoid soggy crusts after the cooling of the bread. Sogginess can be caused by the high level of moisture retained by the large amount of bran naturally present in the bread. When not allowed to properly evaporate during baking, this moisture will migrate to the outside of the bread during cooling and will get trapped by the dryer part of the bread (the crust) causing it to lose its crispiness.

Obviously, the rate of all of these described reactions is proportional to the amount of whole wheat flour used in the formula.

RYE FLOUR

Kernels of rye, once milled, get transformed into darker and more fibrous flour compared to wheat. Rye flour has a stronger flavor but much lower baking performance due to its lower protein quality and quantity, giving it a lower ability to form strong

gluten structure. Like whole wheat, rye flours come in different variations. *White Rye, Dark Rye* and *Medium Rye* can be respectively compared to *wheat patent flour* (more of the inside of the endosperm), *clear flour* (more of the outside layer of bran) and *straight grade flour* (a larger part of the endosperm with the first few layers of bran used).

Rye meals are like whole wheat flour (100% of the kernel of rye is used to make the flour) and come in various granulation (from extra coarse to extra fine). Cracked kernels of rye can also be found. It is better to soak them before adding them to the final dough—they are a great way to give some texture to the bread and a stronger hint of rye flavor. *Rye flakes* are another way to boost rye flavor without changing the texture of the product much, as they will most likely dissolve into the dough while mixing.

Because of its higher fiber content, hydration of the dough with rye flour will automatically be higher, but the most important factor to take into consideration is the weakness of the gluten structure. To avoid damaging the strains of gluten, it is better to mix the dough that contains a high proportion of rye flour with a longer mixing time in first speed and only a very short time in second speed. At first speed, the energy provided by the mixer's hook is sufficient to organize the weak gluten but not too strong to cause damage to the structure of the dough. To reinforce the gluten structure, the use of preferment with high acidity level (like sourdough) is recommended.

When working with a high level of rye flour in the formula, the dough can only go through a short fermentation time or the acidification of the dough will create permanent damage or degradation to the gluten. To still attain great gas production, a higher percentage of yeast is necessary in the formula. Basically, a high amount of preferment is necessary to reinforce the gluten and a higher level of yeast is necessary to enhance gas production and generate breads with sufficient volume.

It is better to shape rye loaves with shorter shapes. The gas expansion will be more concentrated in one point and will be more powerful, leading to a greater oven kick and breads with larger volume.

Scoring should be performed right after shaping to get nicer definition, but also to avoid deflating the bread (once proofed, the gluten becomes even more fragile).

Baking should be performed at a lower temperature for a longer period of time and, when possible, the doors should be opened at the end of the bake to allow the loaves to completely dry out before taking them out of the oven.

Finally, rye bread should be enjoyed at least 6 to 12 hours after baking to allow all the flavors to properly combine and the moisture to distribute properly in the finished products.

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SEMOLINA FLOUR

Semolina flour and *Durum flour* are obtained by milling Durum wheat. The high protein content, density and strength of this wheat provide the perfect characteristics that the pasta industry looks for in the processing of their products. But it is also not unusual to see semolina or durum flour used in bread formula. The amber-colored kernels provide a natural yellow color to the flour and to the end products. Mostly sold under the name of Durum flour or Semolina flour according to their granulation, bakers use these flours for the production of semolina bread. It is possible, though rare, to find *whole wheat durum* as well.

The use of semolina or durum flour also necessitates some technical changes in the formulation and baking process, though not to the same extent as when using whole wheat and rye flours. Due to their higher level of protein, more water should be added to the formula to maintain the right dough consistency. Most likely, when a high level of semolina is used in the dough (50% and up), mixing time will be longer to achieve the desired gluten structure. It is also a great idea to use the *autolyse technique* to compensate for the natural excess of strength of semolina dough and improve its extensibility. No other major changes are necessary for the rest of the baking process.

SPELT FLOUR

Once commonly grown in North America, *spelt* was replaced at the beginning of this century by modern wheat varieties more suited to the high volume production techniques currently used on most American farms. Modern wheat varieties have been bred to be easier to grow and harvest, to increase yield or to have higher protein content. On the other hand, spelt has retained much of its original character due to the more natural and traditional growing process. Spelt is a good source of fiber and B-complex vitamins and it is interesting to note that gluten sensitive individuals have been able to include spelt-based food in their diets. Two main types of spelt flour can be found: *whole spelt flour* and *straight grade spelt flour.*

Due to spelt's lower level of protein and its weaker characteristics, the baker will have to lower the hydration of the dough but also reduce (an average of 20% less) the length of the mixing time. Preferment, like poolish or sponge, is definitely advised when working with spelt flour to reinforce the gluten

structure of the dough. Because of its lower protein content, spelt flour is also sometimes used as a percentage (10% to 25%) of the regular flour to improve dough extensibility and crispiness of the crust of other breads.

BUCKWHEAT FLOUR

Buckwheat is usually thought of as a cereal grain, but it is actually a fruit seed that is related to rhubarb and sorrel, making it a suitable substitute for grains for people who are sensitive to wheat or other grains that contain gluten. Most of the buckwheat grown in the U.S. is milled into flour which is used mainly in pancakes; but *light buckwheat* and *dark buckwheat* can sometimes be used in bread formula.

Because of its lack of gluten forming protein, buckwheat flour must be used in combination with regular bread flour. The proportion depends on the desired final product characteristics and represents in general no more than 15% to 20% of the flour of the total formula. Higher proportions will result in weaker dough, denser and darker bread with coarser crumb texture and stronger flavor.

Many flours or meal choices are available. The baker needs to take into consideration the flavor and texture changes desired, but also the technical changes in the characteristics of the dough or in the appearance of the bread (color, volume, crispiness, etc.) Basically, the thought process is: if meals or flours without gluten forming protein are used then the dough will get weaker and the baker must use all necessary tools to improve the strength of the dough.

Most importantly, the final product should always be pleasant and attractive to the customer.

Once the flour choice has been finalized, the proportion of each flour involved in the formula must be established. To determine that, only a series of tests involving various levels of the selected flours will help the baker to finalize the percentage of each according to the desired final product characteristics.

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Artisan I: Baking Fundamentals	Artisan II: Mastering Sourdough	Advanced Artisan Breads
2007 Schedule: **February 5 - February 9** **March 5 - March 9** **April 2 - April 6** **May 7 - May 11** **July 16 - July 20** **August 6 - August 10** **September 10 - September 14** **October 15 - October 19** **November 5 - November 9** **December 3 - December 7**	**2007 Schedule:** **February 12 - February 16** **March 12 - March 16** **April 9 - April 13** **May 14 - May 18** **July 23 - July 27** **August 13 - August 17** **September 17 - September 24** **October 22 - October 26** **November 12 - November 16** **December 10 - December 14**	**2007 Schedule:** **August 20 - August 24** *with Guest Instructor, Didier Rosada*
As a student in Artisan I, you will become familiar with the terms short mix, improved mix and intensive mix while learning what types of flour you should be using and the proper mixing techniques for every bread imaginable. You will gain an understanding of the relationship between mixing and fermentation; learn how you can completely change the profile of bread by adding an additional ingredient; acquire overall knowledge about the most common preferments used in bakeries today and much more. We use the classic Baguette to teach the fundamentals, but you will also learn to make Rye Bread, Whole Wheat Bread, Multigrain Bread, Pan Bread and Braided Egg Bread. The skills you learn in this class are directly applicable for a position in a professional bakery or for a serious home baker. This class, limited to 15 to allow for personal instruction, fills up quickly, so reserve your spot early. **Be sure to consider the dates for our Artisan II workshop, scheduled to allow you two consecutive weeks of intensive training.**	Building on the skills you gained in Artisan I, Artisan II takes you full speed ahead into the world of sourdough bread. To become a truly skilled baker, you must learn how to control sourdough and not let the sourdough control you! Unravel the complex world of wild yeast and bacteria as you learn how to start your own sourdough starter, adjust the feeding schedule to maximize the quality of the bread and take your own version of the starter home. Experiment with different styles of starters and fermentation to achieve the flavors and characteristics you desire. The extensive hands-on portion of this class includes Sourdough Breads made with liquid and stiff starters, Olive Bread, Raisin Bread, Ciabatta with a poolish and many other favorites. On the last day, you will mix a batch of sourdough by hand using the starter you created on the first day of class. If you are serious about becoming a better baker, this is a class that you do not want to miss! We encourage you to take Artisan I before enrolling in Artisan II unless you already have a thorough understanding of baking fundamentals. **Artisan I and Artisan II sell out quickly, so please be sure to register early!**	Advanced Artisan Breads is designed for experienced bakers interested in refining their skills and deepening their overall knowledge to become even better at their craft. During this illuminating workshop for those who love their profession, you will learn about and practice a variety of interesting breads using advanced methods. You will experiment with ways to fit new breads into an existing product line with fresh techniques such as sourdough to make sweet breads and miche using high ash flour and 230% (!) starter. Whole grain breads will be produced using whole grain starters and no white flour. You will work with difficult flours such as rye and spelt. Retarding techniques will be demonstrated with Baguettes and Ciabatta - retarded before shaping, and Whole Wheat - retarded after shaping. Because this more advanced class is not designed for beginning bakers, students need to have taken Artisan I and Artisan II or have extensive experience and a thorough understanding of the baking process, including science and terminology. Experienced bakers will be inspired by the newfound understanding and marketable skills they take away from this seminar!

BREAD AND PASTRY PROFESSIONAL TRAINING PROGRAM: MAY 30 - OCTOBER 3

Pastry I: Cake Bases, Creams and Assembly	Pastry II: Exploring Creams, Mousses and Glazes	Pastry III: Advanced Cakes and Pastries
2007 Schedule: **March 5 - March 9** **June 11- June 15** **November 12 - November 16**	**2007 Schedule:** **March 12 - March 16** **June 18 - June 22**	**2007 Schedule:** **March 19 - March 23** **June 25 - June 29**
In this introductory class, students will learn the formulas, techniques and processes that are the foundation on which both modern and classic desserts are built. Through lecture, demonstration and hands-on participation, you will learn about ingredient functionality, cake mixing methods, pastry doughs and batters, creams and icing preparation, and layer cake assembly. Students will make a variety of base products such as Angel Food cake, Chiffon cake, Genoise, Devil's Food cake, Japonais and Paté a Choux. The cake and pastry bases will then be finished with a variety of creams and icings such as pastry cream, fruit curd, Italian butter cream and fondant. Special emphasis will be placed on learning the procedures for making cake and pastry bases, proper creams and icing preparation and assembling and icing layer cakes. Some of the finished products will include Chocolate Hazelnut Cake, Lemon Curd Cake, Black Forest Cake, Napoleon Cake, Éclairs and Paris-Brest.	In Pastry II students will explore in-depth the techniques and processes that make up the desserts and pastries which are found in many of today's pastry shops. Cake mixing will continue with sponge cakes including Roulade (Jelly Roll) and Almond Sponge Cake. These versatile cakes will be used to finish several of the desserts using Crème Anglaise, Pastry Cream, Diplomat Cream, Bavarian Cream, Mousseline Cream and Cremeux. In addition, students will also learn the fundamental principles for creating light fruit mousse cakes and rich chocolate mousse cakes. Several mediums for finishing cakes such as Italian butter cream, various chocolate glazes, ganache, fruit glazes, mirror glazes and marzipan will also be implemented. Some of the final products produced in Pastry II include Opera Cake, Baba Savarin, Cremeux Tarts, Bavarian Cakes, Fraisier Cake, Charlotte Russe, as well as Fruit and Chocolate Mousse Cakes.	This class is designed for professionals in the industry or students who have completed Pastry I and Pastry II and are interested in learning more about product composition, advanced mousse preparation, chocolate and advanced finishing techniques. Students will learn how to add flavor and flair to their products by creating infused creams, frozen inserts, textured cake bases and seasonal fruit preparations that can complement the natural flavors and textures of any dessert. Expanding on the formulas and processes learned in Pastry I and Pastry II, students will produce dessert offerings that reflect today's pastry trends. Special emphasis will be placed on understanding the balance between flavor, texture and visual elements to create eye catching and flavorful desserts. Through demonstration and hands-on participation, students will learn how to temper and work with chocolate in order to create sophisticated garnishes to highlight any pastry or dessert.

courses

Fundamentals of Pastry	German Breads	Holiday Pastries
2007 Schedule: **February 19 - February 23** **April 30 - May 4** **November 5 - November 9**	**2007 Schedule:** **tba: check our website for updates** *with Guest Instructor, Thorsten Phillipe*	**2007 Schedule:** **October 29 - November 2**
Learn the fundamental formulas and processes for creating today's most popular and appealing pastries as we cover the mixing and baking of a number of products—from quick breads, to cookies, to puff pastry. Students will learn to make Financiers, Madelines, Muffins, Pound Cake, an assortment of Cookies, Brownies, Pies, Coffee Cakes and more. Savory items will also be explored as a way to build a diverse product line by using a few base pastry formulas such as pate a choux and puff pastry. The main focal points of this class are the understanding of ingredient functions and the mixing, handling and baking guidelines for the pastry doughs and batters covered. Students will obtain the knowledge and skill necessary to produce, manipulate and troubleshoot a wide variety of baked goods.	This exciting seminar dedicated to whole grain and German breads will show you how easy it can be to add these unique products to an existing bread line. If you have worked with doughs containing a high percentage of rye or whole grains, you know how difficult they can be to handle. Learn how to adjust your mixing times and fermentation to get exceptional results, even when using 100% rye! You will make traditional breads including Sourdough Rye, Whole Grain Spelt Bread, and the traditional Pumpernickel, which bakes for 36 hours! You will also learn how to make traditional Bavarian Pretzels and Kaiser Rolls.	Holidays are steeped in tradition and associated with warm memories. The pastries and desserts we identify with are modern day reminders of a forgotten art. In this class, you will finally learn the time honored secrets and techniques for producing an array of holiday breads, cookies, cakes and tarts that are rich in culture, tradition and flavor. A wide variety of specialty items will be covered, including Stollen, Pannetone, Buche de Noel, Holiday Mousse Cakes and seasonal cookies, pies and tarts. Through lecture, demonstration and hands-on participation, student will learn the formulas and processes for a wide variety of items. Discover why these beautiful desserts and pastries are holiday favorites and introduce your customers or family to a wealth of traditional and exciting flavors.

VISIT www.sfbi.com FOR SCHEDULE UPDATES AND MORE DETAILED CLASS DESCRIPTIONS!

Viennoiserie (Breakfast Pastry)	Whole Grain Breads and Specialty Flours	Baking with a Wood Fired Oven (Four a Bois)
2007 Schedule: **February 12 - February 16** **April 16 - April 20** **October 22 - October 26** **December 3 - December 7**	**2007 Schedule** **February 19 - February 23** **April 16 - April 20** **September 24 - September 28** *with Guest Instructor, Didier Rosada*	**2007 Schedule** **July 30 - August 3**
Viennoiserie is the term used to describe sweet yeasted dough—laminated or non-laminated. The interest in laminated dough such as Croissant, Danish and Brioche is rising considerably and the quality of Viennoiserie in America is finally starting to catch up to the quality of well-crafted artisan breads. Through lecture, demonstration and hands-on production, students will learn about ingredient functions, dough mixing technology, laminating technology, the preparation of fillings and make-up and baking processes. Students will learn to add visual appeal to their pastries using glazes, fresh fruits, nuts and highlights of powdered sugar. Serious bakers and pastry enthusiasts alike will gain knowledge about various fermentation techniques as a way to accommodate production, build flavor and add shelf-life. A selection of non-laminated dough will include items such as Pan d' Oro, Pannetone, Stollen and Brioche.	During this intensive, hands-on workshop, students will learn how to bake with whole grains and specialty flours. Technical characteristics of specialty flours such as buckwheat, spelt, and semolina will be covered, along with precautions to take when using them. A variety of breads will be baked each day, including Flax Seed Bread and Pear-Buckwheat Bread. Students will learn how to consistently work with whole grain breads in a bakery environment to satisfy the growing customer demand for these products. The class will discover whole grain yeasted preferments and how to work with sprouted wheat. In addition, each student will build a sourdough culture using whole grain flours to be used in final dough by the end of the week. Beginners and experienced bakers alike will be inspired as they learn an array of new breads and different shapes.	Don't miss this rare chance to experience baking the way it was done in days past! You will learn about the large selection of products that are well-suited to being baked in a wood fired oven, including breads and sweet and savory items such as pizza and rustic tarts. Instruction will also include the fundamentals of designing and building a wood-fired oven. Most of this class will be hands-on, but some products will be demonstration only. Please note: Due to the size limitations of the wood fired oven, a sampling of each product will be baked in the wood-fired oven; the remainder will be baked in the gas fired deck oven. NOTE: *Due to the size limitations of the wood fired oven, only a sampling of each product will be baked in this oven; the remainder will be baked in the gas fired deck oven.*

how to register

- Register online at www.sfbi.com or call 650.589.5784 to register over the phone.
- Tuition for all classes is $980; tuition includes daily lunch. Sign up for 2 classes within a 12 month period and receive a 10% discount on the second class: total price is $1,862.
- A 50% deposit is required to reserve your space in class payable by check, cash or credit card (MasterCard, VISA, American Express). The remaining amount is due on the first day of class.

quick class facts

- All courses run from Monday-Friday.
- Courses begin at 8:30am on Monday and 8:00am for the rest of the week. Classes end at approximately 4:00pm each day.
- Acceptable attire is a white chef's coat or white shirt and checked pants. Hat optional. Wear comfortable non-skid shoes.
- Bring a notebook, writing utensils and a calculator to class.
- As a courtesy to our instructors and fellow students, mobile phones must be shut off or left on "vibrate" mode during class.
- SFBI offers special rates at select hotels near our campus. Most of these hotels offer direct shuttle service to and from our school. Visit www.sfbi.com or call us at 650.589.5784 for details.

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Use of Preferments

When the specialty flours have been selected and their proportions established for the formula, the next step is to define which ones will be used in a preferment (yeasted or naturally leavened) and at which level. Here again, a few important things to take into consideration:

Yeasted or naturally leavened preferment?
This is a seemingly simple question with multiple answers. The first one is entirely related to the desired flavor of the finished product. Yeasted preferment will have the tendency to develop nuttier, "wheaty" flavors with a hint of sweetness, while naturally leavened preferment (sourdough) will add more acidity to the final product.

Technical requirements are also a factor in the decision about the type of preferment. A formula with a lot of rye flour will definitely benefit from a sourdough culture, as its natural acidification automatically improves the strength of the gluten structure and leads to a better final bread appearance. Liquid preferment's strength-reducing properties will improve the extensibility of doughs with a tendency for excessive strength, making them easier to process, as machinability is naturally improved.

Which flour to use in the preferments?
When multiple flours are used in the formula, using specialty flours (such as rye, whole wheat, semolina, buckwheat, or oat meal) is a great way to develop different flavor profiles, and also a great way to improve dough characteristics.

A. Flavor Profile
The use of specialty flour in a yeasted preferment or sourdough will lead to the production of different types of

acidity that will create very interesting and pleasant flavors in the final products. The following are several examples of the known effects of adding specialty flours to a preferment. Of course, the choices are many and options are limited only by the imagination of the baker. Here we offer a basic description of the different flavor profiles obtained when using typical preferments made out of regular flour:

• *Poolish* will create breads with complex, sweet and nutty flavor and is typically used in the production of Baguettes, but also in other products such as Ciabatta.

• Bread made with *sponge* (stiffer than poolish) will also have a sweet flavor but not as nutty as poolish and with a very small hint of acidity in the aftertaste. Because of these flavor combinations, sponge is often used for the production of sweet breads such as egg bread, pan bread, brioche, or Danish dough.

• The flavor profiles of the *pre-fermented dough* won't be as complex compared to poolish or sponge (due to the presence of salt and the fermentation happening at cooler temperature versus room temperature). However, this type of preferment will still improve flavor by adding a touch of sweetness and a bit of mild acidity to the bread.

• *Biga* made the traditional way (very stiff preferment allowed to ferment for about 15 to 20 hours at 60°F) will offer a compromise between sponge and pre-fermented dough by creating bread with a great balance of acidity, sweetness and nuttiness. However, it is important to keep in mind that biga, due to the long fermentation time at lower temperature, will also develop a lot of acidity that will reinforce the gluten structure and create dough with a noticeable excess of strength. It then becomes necessary for the baker to modify the baking process by taking actions that will improve dough extensibility, such as the use of the autolyse.

• *Liquid levain* maintained at room temperature creates sourdough breads with a mild lactic acidity flavor.

• Sourdough bread made with *stiff levain* maintained at lower temperature (around 50°F) will have a stronger, more sour flavor.

Having a good understanding of these flavor profiles is important as it will help the baker choose which kind of preferment will be best according to the desired final flavor of the bread.

Once these basic preferments have been mastered, then it is possible to create variations of each type by adding specialty flours during their elaboration. Here are a few flavor profiles obtained using this technique:

• Adding whole wheat flour to a sponge (at least 40%) will create honey flavors in the finished product. This could be a great preferment to use for the production of whole wheat breads.

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professional training program

Apply by April 2007!

If you are committed to starting a new career as a baker or pastry chef, or enhancing your current career in the baking industry, our **Bread & Pastry Professional Training Program** will give you the foundation you need to achieve success.

Our next session runs from May 30 - October 3. Class is limited to 12 students, so early registration is important! Visit us online at www.sfbi.com for a detailed curriculum and more information, or call us at 650.589.5784 and ask for an application package to be mailed or emailed to you.

why train at sfbi?

There are many educational options for the aspiring baker or pastry chef. Here are just a few reasons why SFBI's Professional Program may be right for you:

- Our curriculum includes an unusually ***high level of hands-on*** practice.
- We commit to ***small class sizes***, with a maximum of 12 students.
- During our intensive schedule, students train for full days, rather than the half days at many other schools, so ***training hours*** are almost identical, while the ***overall time commitment*** (18 weeks) is less.
- SFBI students work with ***technologically advanced equipment in spacious bakery classrooms*** similar in scale and design to a typical modern bakery.
- Because of the scale of our facility, SFBI students ***bake in high volume***, developing valuable production skills.
- Professional Program students are allowed ***access to bakery classrooms during weekend hours,*** time to explore creatively and further practice skills.
- Our state-of-the-art facility is just a short drive from downtown ***San Francisco,*** where students can unwind and explore during off-hours.

2006 training in paris—très bon!

For the fourth year in a row, graduates of SFBI's **Bread & Pastry Professional Training Program** visited France for two weeks of intensive hands-on training. In past years, students attended INBP in Rouen. New for 2006, the class attended the *Ferrandi School* in Paris.

The training began in the bread lab making traditional French baguettes. The students were excited to use different styles of mixers, including fork and artoflex mixers and a lot of autolyses. The dough looked typical for French dough going into the oven ... low volume, slack. However, once it hit the hot deck of the oven, it jumped up to have a full volume with a beautiful, round cross section. The students reveled in the baguettes which emerged 20 minutes later with a golden crisp crust and a soft, open, honey-combed crumb. The enthusiasm continued for the remainder of the bread stage as we made regional French breads including *pain au levain, campagne, fougasse with chorizo, and rye bread.*

During Viennoiserie training, the students were excited to use all manual techniques for lamination. We made traditional *croissants* as well as *pain au chocolat* and *pain au raison*. *Brioche a tete* and *braided brioche* were made on the last day. In addition to the sweet stuff, we made *savory Danish* using onions, goat cheese and lardon—these were a huge hit.

In the pastry lab we made a selection of contemporary *entremets, tarts, petits fours* and *plated desserts* using many components and some new and different techniques. One afternoon we took a break from producing for a sugar demonstration which included *nougatine* as well as cast, blown and pulled sugar. The showpiece was a traditional *croquembouche* with a molded nougatine base. The croquembouche was garnished with pulled sugar ribbons, two swans made from blown sugar and assorted pulled sugar flowers.

In the Pierre Herme sessions, students learned Pierre Herme techniques for macaroons, as well as ice cream and sorbet technology. The class was put to work to make several of Herme's more popular items such as *Isphahan* and several varieties of *Miss Gla Gla*, a sort of ice cream sandwich, applying the macaroon and frozen dessert technology.

When we weren't busy in class, we were walking the city, exploring Parisian bakeries and pastry shops. Some of the more notable stops were *Poilane* (we toured the production area), *Gerard Mulot* in St. Germain de Pres, *The Bon Marche*, as well as *Pierre Herme* on Rue Bonaparte. It seemed that every evening we had a memorable meal. On the weekend, we all went our own ways to explore Paris, the North of France, Belgium and even Spain. Once it was time to leave, many of us were tired. It was a full two weeks of class (after a very full 18 weeks of training at SFBI), exploration of an amazing city and a very memorable experience at the Ferrandi School.

—Brian Wood
Baking & Pastry Instructor

how to develop a formula, cont.

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• Adding sourdough rye to rye dough or regular white dough will produce breads with a slightly spicy flavor.

• Making sponge with only whole durum wheat flour or using semolina flour for the poolish elaboration are great ways to develop unique flavors for the usually bland semolina bread.

• High extraction flour added to a poolish will increase its nuttiness and sweetness and at the same time make the crumb of the bread a more traditional color.

The addition of oatmeal in a sponge will reinforce the oat flavor and the sweetness in the finished product and is a great way to make healthier bread, as sweetener levels can be decreased.

Obviously, the list of examples can be expanded by experimenting with other meals or flours. Flavor profiles can also be developed by combining the use of several preferments in the same formula. For example, poolish could be complemented with liquid levain. The mild acidity of the levain is a great complement to the nuttiness of the poolish and offers the extra advantage of improved shelf life.

It is also important to keep in mind the number of preferments in use in a bakery. Preparing preferments takes time and bakers need to be careful not to spend more time making preferments than mixing final dough!

B. Technical considerations

In addition to the different flavor profiles that are developed when using specialty flours in preferment, it is also interesting to know that the flour distribution between preferment and final dough can have some effects on the dough properties. When using flour in a preferment, the flour goes into a natural degradation process due to the enzymatic activity happening during the pre-fermentation. When this flour is added back to the final mix, its baking performance will automatically be lowered. This is why it is judicious to use as much specialty flour (generally weak anyway) in preferment and keep as much of the regular flour (stronger flour compared to specialty flour) for the final dough. By doing that, the baker will naturally optimize the strength of the final dough and will get bread with better volume, appearance and flavor profile.

Specialty flours rich in minerals (like whole wheat or rye flour) will naturally trigger faster fermentation activity as these minerals are generally a source of nutrients for yeast or bacteria. Therefore, the baker will have to slightly decrease the amount of yeast for yeasted preferment or decrease the proportion of the starter in naturally leavened preferment (generally, whole wheat levain or rye levain are elaborated with just 10% to 20% of starter for an overnight fermentation time at room temperature). This will avoid an excessive fermentation activity that could generate excess of acidity, gluten degradation and off flavors in the finished products. Another way to control the fermentation activity is the addition of salt (about .2 to .5% based on the flour involved in the preferment). Salt will slow down yeast and bacteria activity but also enzyme activity, preserving optimum strength of the preferment.

C. What proportions of flour to involve in the preferment?

The proportion of flour to involve in the preferment must be defined according to the following factors:

Flavor profile: Depending on the desired type of flavor (spicy, nutty, honey, etc.) the baker will need to adjust the proportion of flour in the preferment. For example, when a very nutty flavor is preferred, then a higher percentage of flour should be used in a poolish.

Amount of preferment: If two or more preferments are used in the formula, the proportion of flour involved in each of them should be lowered. It is difficult to make a general rule about this, since too many variables can be involved in the process, but at least 40% of the total flour should remain un-fermented to assure proper final dough characteristics. Of course this percent might change depending on the type of flour involved in the formula.

The type of preferment: During the pre-fermentation, some acidity will naturally be created by the preferment, more or less, depending on the type of preferment. For example, a sourdough will produce a lot more acidity compared to a poolish (the pH of a sourdough could be as low as 3.6 while a poolish or a sponge rarely goes below 5). The combination of several preferments could trigger a big drop of the pH of the dough that could penalize the dough characteristics. An excess of acidity could lead to very strong dough characteristics that might be difficult to work with. A very low pH could negatively affect the gluten by causing significant degradation that will create dough very difficult to work with and with poor gas retention.

—Didier Rosada

This article will be continued in the next issue of our newsletter.

recipe of the season: 100% whole grain

Ahhh! The holiday season has passed and many of us are guilty of having indulged our appetites more than usual. It is now time to cleanse the body. So, here we offer an incredible, delectable 100% whole grain bread that provides the significant nutritional benefits of high fiber and whole grains. We chose to bake this bread in a Panibois mold (a cute wooden basket) which makes an attractive presentation in any bakery. *Enjoy!*

Levain

Ingredients	Baker's %	U.S. Decimal
Whole Wheat	100.00	1.951
Water	80.00	1.561
Starter	25.00	0.488
Total	205.00	4.000

Soaker

Ingredients	Baker's %	U.S. Decimal
Flax Seeds	15.25	0.458
Sunflower Seeds	15.25	0.458
Sesame Seeds	15.25	0.458
Rolled Oats	15.25	0.458
Water	39.00	1.170
Total	100.00	`3.000

Final Formula

Ingredients	Baker's %	U.S. Decimal
Whole Wheat	65.00	6.500
Rye Meal	25.00	2.500
Medium Rye	10.00	1.000
Water	69.00	6.900
Salt	2.70	0.270
Yeast	0.30	0.030
Soaker	30.00	3.000
Levain	40.00	4.000
Total	242.00	24.200

Levain Procedure

- Mix all ingredients until well incorporated with a D.D.T. of 70°F
- Allow to ferment 12 hrs. at room temperature (65°F -70°F).

Soaker Procedure

- Combine all ingredients for at least 2 hours or up to 15 hours.

Final Dough Procedure

- Mix in 1st speed for 5 minutes
- Mix in 2nd speed until medium gluten development (improved mix).
- Dough consistency will be medium soft.
- Mix in the seed soaker in 1st speed only until fully incorporated.
- Desired dough temperature 75°F - 78°F.

- ***First fermentation:*** 1 hour, 30 minutes
- ***Divide:*** 18 oz.
- ***Rest time:*** 20-25 minutes
- ***Shape:*** Short batard, roll in crushed wheat and place in Panibois mold. You may score this loaf after shaping or prior to loading.
- ***Proof:*** 1 hour to 1-½ hour at 75°F - 80°F at 65% hr.
- ***Bake:*** 440°F for 35 minutes in deck oven with 2 seconds of steam.

baker's tip: using deactivated yeast

Many bakers have experienced a croissant dough being very elastic during lamination. This occurs more frequently when working with straight dough, which does not have the benefit of extensibility from preferments, especially from poolish or liquid levain.

Adding 0.1 to 0.3% flour weight of deactivated yeast can be a great solution for this problem.

An advantage of deactivated yeast is that it reduces shrinkage and tearing when sheeting dough. A substance in yeast called *glutathione* has a reducing power by separating gluten bonds. Glutathione becomes accessible once yeast cells die. Therefore, deactivated yeast acts as a relaxing agent in dough and improves machinability. It also allows the dough to proof with less pressure, resulting in a product with better appearance, crumb texture and volume.

Deactivated yeast is a natural product, because it is made only with yeast. It is a powdered form of dead cell of yeast, which is usually dried under moderate heat to inhibit fermentation ability and allow glutathione to be available. In today's market, there are many deactivated yeast with different reducing power available. Without adding any chemical dough conditioner, balancing extensibility and elasticity of laminated dough can be achieved fairly easily.

—Miyuki Togi, Assistant Instructor

Happy New Year from all of us at SFBI!

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What's Rising this Season ...

- how to develop a formula
- recap of 2006 paris trip
- recipe of the season
- baker's tip
- 2007 course schedule, and more!

What's Rising is designed and edited by
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