



HOW TO USE THIS BOOK

The Baker's Manual has been revised to accommodate both home cooks and professional chefs by providing two different batch sizes for each recipe. A 5-quart capacity stand mixer will accommodate the small batch, and a 20-quart mixer fits the larger batch. The ingredient amounts for the small batch are listed first by volume, which best suits novice and home cooks. The ingredients for the larger batch are listed by weight. Professional cooks do not have time to scoop out 35 cups of flour, nor can they afford the inconsistency that measuring flour by volume creates. A scale makes measuring fast and accurate. Commercial mixer bowl sizes are generally 20, 40, 60, 80, and 120 quarts. Many bakeries purchase collars for the mixer that adapt to another bowl size—for example, so that both 40-quart and 60-quart bowls may be used on the same machine. Since you know that the second batch size is four times the first, it is a simple matter of multiplying to calculate a batch size to suit your own equipment.

The chapter on bread is written differently. Because the slightest variation in measuring can radically change the finished texture of a bread, all ingredients should be weighed, even when making a single loaf. A cup of flour can contain anywhere from 3.5 to 6 ounces of flour depending on how densely it is scooped into the cup, and even careful, consistent measuring will yield differences of $\frac{1}{2}$ ounce from cup to cup. There is no second batch size given for breads because bread-makers use what is called a baker's percentage system to change their yield (see Chapter 2). In a chef's mind, breads are not so much recipes as formulas. They contain few ingredients beyond flour, water, and yeast, so each product is thought of as a ratio of one ingredient (usually flour) to the others.

With the exception of bread and laminates, most of the recipes lack detailed discussions of ingredients and cooking methods. *Understanding Baking*, the companion volume to this book, covers those topics in great detail. Sufficient information regarding technique is included with the recipes to assure success even for those new to pastry.

CHOOSING A SCALE

Digital and balance scales are preferred by professional bakers. Spring-loaded scales are not as precise, nor do they hold up well over time. Dig-

ital and balance scales can be recalibrated to maintain accuracy. That said, there are scales to suit every need. The more weight a scale can handle, and the greater its accuracy to within a gram, the more expensive it will be. For home cooks, there are inexpensive digital scales available that will hold up to 11 pounds and be accurate to within $\frac{1}{4}$ ounce. These scales are fine to start with, and they also convert between grams and ounces.

Midsized bakeries have digital scales that handle more weight, so that chefs can place bowls onto the scale, tare the scale to zero, and scoop one ingredient after another into the bowl, taring the scale to zero after each. Often, when making cakes or cookies, a sifter is placed onto the bowl so that the dry ingredients are mixed and weighed all at once. These scales are usually accurate to within a few grams, which makes it possible to weigh small amounts of powerful ingredients like leavenings, salt, and spices. Otherwise, those ingredients should be measured by volume.

Digital scales may display weight differently. One scale may read 1 pound 12 ounces and another 1.75 pounds. The numbers are the same, but seeing ounces displayed as decimals can be confusing. The number 1.3125 looks ridiculous, but it is 1 pound 5 ounces, or 21 ounces. Such is the complexity of living with the English system, which the majority of Americans use. To make conversions easier, see the appendix for a list of decimal equivalents for fractions and decimal equivalents for ounces.

HOW I MEASURE

Everyone measures a little differently, and these differences often reveal a bias. In looking at my notes for this book, I notice that I have a bias toward a midsized bakery that employs four to eight bakers seven days a week. I also realized that much of how I measure I learned in home economics, well before I embarked on a culinary education. It was there that I first learned the difference between measuring dry and liquid ingredients.

In the back of this book is a list of volume and weight equivalents for many ingredients. I measure flours, cocoa, confectioners' sugar, and starches by the spoon-and-sweep method, which means I lightly spoon

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the ingredient into a measuring cup and sweep off the excess with the blade of a knife or spatula. I get 4.25 ounces of all-purpose flour per cup. If you merely dip your measuring cup into the flour, you will end up with between 5 and 5.5 ounces per cup. You can see the advantages of a scale already. Granulated sugar doesn't vary much between dipping or spooning, so I scoop it directly, but brown sugars I pack tightly into the cup.

I did not weigh the liquid ingredients; they are in fluid-ounce form. This is standard practice in small to midsize operations, except in breadmaking. Many bread bakeries have a special water system that allows the chef to instantly get a specific amount of water at a specific temperature, and the amounts are input by weight. The bread chapter lists liquid ingredients both by volume (fluid ounces) and weight (ounces).

Eggs are a special case. Some bakeries exclusively use eggs in the shell, and therefore specify a number of whole eggs, even for large batches. An equivalent number of bakeries use containers of frozen whole eggs, egg whites, and egg yolks. Large eggs are approximately 1.7 ounces out of the shell; for the larger batch I multiplied that times the number of eggs, so that the eggs may be scaled. You can easily convert back to a number of whole eggs. If the eggs are separated in the recipe, I provided the weight of the whites and yolks, respectively.

Leavenings, salt, and spices are listed by volume. In my opinion, only a scale accurate to within a gram or two is appropriate for measuring these things. The exception to this is in the bread chapter, where weights are listed for every ingredient to provide all the information necessary to use the baker's percentage system.

ABOUT MIXING

It is assumed your mixer will have a paddle, whip, and dough hook attachment. Assume that beating eggs or heavy cream requires the whip, creaming butter and sugar for batters requires the paddle, and making bread doughs requires the dough hook. Exceptions will be specified within the recipe text.

PREHEATING OVENS

Unless a recipe says to do otherwise, it is assumed you will have preheated your oven to the appropriate temperature.

THE PASTRY KITCHEN

This book has been written to accommodate the wide range of career choices for today's pastry chefs. Some chefs work in restaurants, others in bakeries, coffee shops, and catering kitchens. A smaller number venture out on their own, starting a wedding cake business, for example. With that in mind, all the recipes in this book can be made at home with good results and without expensive equipment beyond a 5-quart capacity heavy-duty stand mixer and a reliable oven. Throughout the book, however, you may notice references to specialized pieces of equipment that are commonly found in midsize bakeries. Below is a brief summary of each.

As long as an oven is temperature-accurate and doesn't have pronounced hot and cold spots, it is fine for bread and pastry. These basic ovens are called **conventional ovens**. Many bakeries have sets of double-doored **convection ovens**. Convection ovens have fans that circulate the hot air throughout the oven, making it cook more efficiently and evenly. As a result, convection ovens appear to bake "hotter" than other ovens. The recipes in this book have been tested in a conventional oven, so if you use them in a convection oven, decrease the heat by 25°F. The fans in most convection ovens can be turned off, which is often necessary when baking soufflés, pâte à choux, and meringue-topped pies.

Bread bakers seek out special ovens. **Deck ovens**, **steam injection ovens**, and **masonry ovens** make baking artisanal bread easier and more efficient. Masonry ovens radiate and hold much more heat than do other ovens, and "steam injection" means that no one has to spray the baking loaves by hand every few minutes.

I left out **cooktops** as a category because most chefs can produce fine custard and candy even off a rickety old electric range. That said,

portable cooktops can be very helpful. Long the mainstay of catering, portable cooktops give pastry chefs working in restaurants some space of their own. Modern ones, like the induction cooktop, heat only the contents in the pan. The cooktop stays cool and less heat radiates into the room.

Mixers in bakeries are usually just larger versions of the home cook's trusty KitchenAid—that is, until we get to the large industrial-size bakeries. Though the brand name Hobart dominates, any heavy-duty stand mixer is fine. Hobarts start at 20-quart capacity and go on up to 140 quarts, usually in increments of 20 quarts. You will need the three basic mixing attachments: the paddle, the whip, and the dough hook. Try to have several bowls for your mixer. Many other attachments can be purchased for a Hobart, such as a grinder.

Bread dough mixers are much more expensive than regular mixers and much more specialized. First, mixing bread in a machine requires a lot of power, and if you plan to have a large bread selection, your stand mixer may not be up to the stress. Second, specialized dough mixers have a more gentle mixing action that better mimics hand kneading. Often, the mixing bowl itself revolves. Third, a good dough mixer has a special tilting function, so you can easily pour the dough out of the bowl.

Proofers and **retarders** look like refrigerators, but they are much more sophisticated. They can be programmed to slowly increase temperature and humidity, or quickly bring the temperature down. This allows the fermentation rate of yeasted doughs to be easily and carefully controlled to maximize flavor, improve the texture of the finished product, and even save on labor. If your proofer is programmed to slowly thaw Danish dough and bring it through a rise, then you may not have to be in the kitchen at 3 A.M.

Dough sheeters are used to perfectly roll out pie dough, laminate doughs, and cookie doughs. If you make pastries and pies every day and have a small staff, a dough sheeter will save you money in the long run from all the time it takes to do turns on croissants and roll tart shells by hand. The dough passes between two rollers, which can be set to varying distances apart, and comes out smooth and even. If you have a very small space, a portable tabletop model is a possibility, but the constant rearranging can be a hassle.

If you plan to fry anything regularly, get a **deep fryer**. There is only one doughnut recipe in this book; however, one of the greatest bits of pastry wisdom to be passed around is to not fry without a dedicated fryer. It is safer, wastes less oil, is easier to control, and makes the process bearable. Ovens are hot, but frying is hotter.

Every pastry kitchen should have one **food processor**, at least a large-capacity Cuisinart or, even better, a commercial machine.

