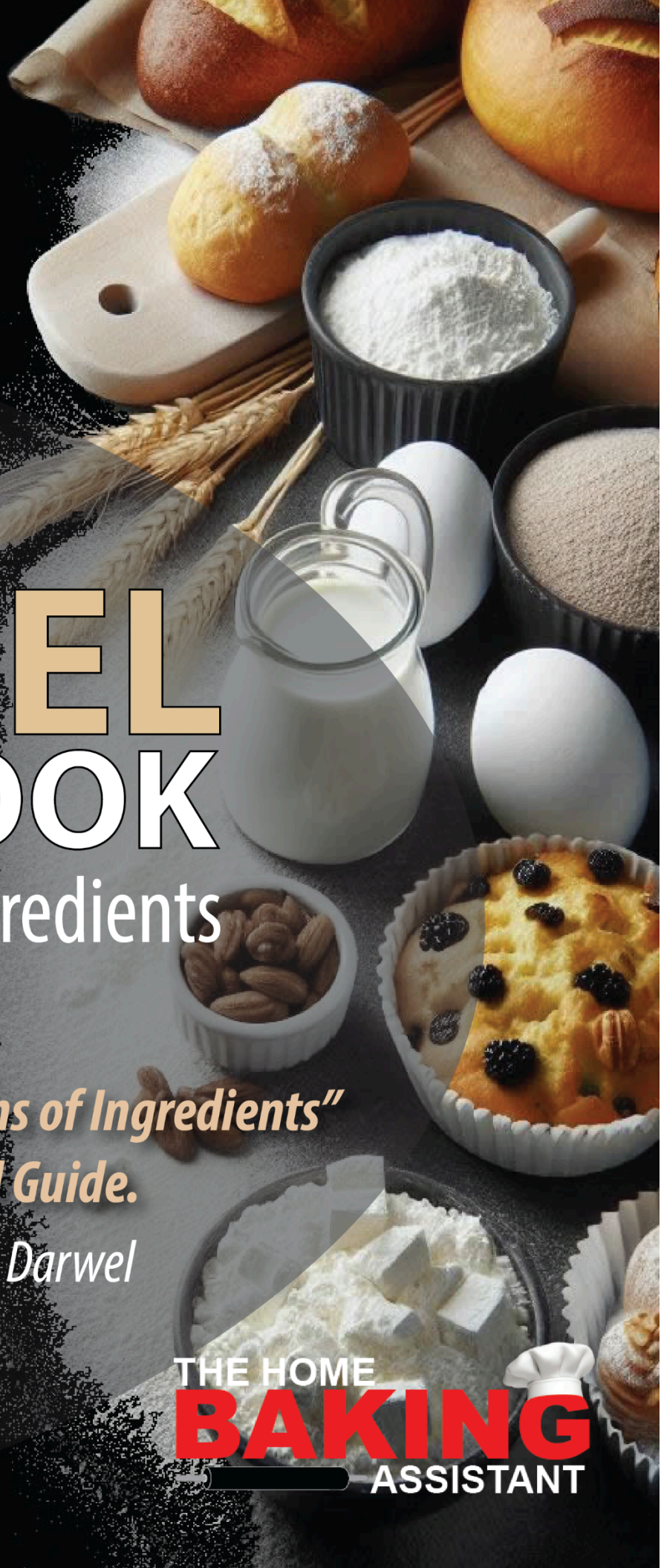
NO BS BAKING



NEXT LEVEL LOOK

at Baking Ingredients

The Ultimate "Functions of Ingredients" Kitchen Handbook and Guide.

By JP Darwel

THE HOME BAKING ASSISTANT

Forward

Baking, at its heart, is a fascinating blend of art and science. While a recipe provides the map, true mastery comes from understanding the terrain – the ingredients themselves. This book aims to illuminate the fundamental roles each component plays, transforming the act of following instructions into an intuitive dance with delicious outcomes. From the subtle nuances of different flours to the powerful reactions of leavening agents, every ingredient contributes a unique function, impacting texture, flavor, appearance, and shelf life in profound ways.

An in-depth comprehension of how ingredients work individually and, more importantly, how they interact within the complex matrix of a dough or batter is paramount to successful baking. This knowledge is your compass when troubleshooting a sunken cake, a crumbly cookie, or a dense loaf of bread. It empowers you to adapt recipes to dietary needs, substitute ingredients intelligently, and even invent your own creations with confidence. By understanding the 'why' behind each addition, you move beyond mere replication to true innovation, gaining the foresight to predict outcomes and correct course before potential issues arise. This foundation of knowledge not only elevates your baking skills but also deepens your appreciation for the intricate chemistry that transforms simple raw materials into culinary delights.

I truly hope you enjoy this book.

Best Regards

JP Darwel

NOTE: About this Preview

I have attempted to rationalize the Table of Contents down significantly for this review; however, note that although this only shows the primary and secondary headings. This book has a vast amount of additional nested sub-headings within many of the secondary headings listed here.

This book is very comprehensive. Be assured in that!

Reagards

JP

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Chapter 1: Flour - The Architectural Framework

I. The Foundational Role of Flour in Baked Goods

- Overview of Key Flour Components Influencing Baking Outcomes

II. The Science of Gluten: Structure and Function in Wheat Flours

- Detailed Explanation of Gluten Formation from Gliadins and Glutenin
- How Gluten Network Development Dictates Dough Elasticity, Extensibility, and Gas Retention
- The Impact of Protein Content on Gluten Strength and Baked Product Texture

III. Wheat Flours: Characteristics, Gluten Potential, and Applications

- Categorization of Wheat Flours by "Hardness" (Protein Content)
- Protein Profiles of Common Wheat Flour Types
- Why do protein ranges vary so much in the chart?
- Water Absorption Capacity and its Influence

Dig into the details of all these flour types, baking performance, nutrition and a lot more.

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- All-Purpose Flour
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- Cake Flour
- Pastry Flour

V. Specialty Wheat Flours

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- Farro
- Farina

VI. Non-Wheat (Gluten-Free) Flours in Baking

Don't let this short sub heading group make you think that this section is light. Loads of information on many types of Gluten free flours and GF baking Information.

- Defining Gluten-Free Flours and the Inherent Challenges
- Strategies for Successful Gluten-Free Baking
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- Cakes
- Cookies
- Pastries (Puff and Shortcrust)

VII. Troubleshooting Common Water-Related Dough Issues
Learn to quickly identify and correct water related issues with sound advice and professional tips.

VIII. Hydration Strategy for Optimal Dough Water Content
Learn to figure out hydration requirements for any ingredient you add or want to add including fibers, proteins, and thirsty hydrocolloids like xanthan gum to name a few.

- Hydration Factors and Calculations
- The Problem with Theoretical Hydration Values
- The Practical Hydration Strategy: A Multi-Factor Approach
- Conclusion
- Practical Hydration Guidelines for Dough Components

Chapter 3: Yeast - Science in Baking

Everything you want to know about yeast including deactivated yeast types and applications.

- Introduction to Yeast: The Microorganism of Leavening
- Varieties of Commercial Baking Yeast
- The Biochemical Mechanism of Yeast Fermentation
- Environmental and Ingredient Factors Governing Yeast Activity
- Impact of Yeast on Final Baked Product Attributes
- Nutritional Yeast and De-activated Yeast
- Troubleshooting Common Yeast-Related Baking Challenges
- Conclusion: Mastering Yeast for Baking Excellence

Chapter 4: Salt - The Silent Controller and Flavor Enhancer

- The Fundamental Roles of Salt in Baking
- Types of Salt Used in Baking…and there are many!
- General Application Rates (Baker's Percentage)
- Salt Substitutes and Sodium Reduction Strategies
- General Approach to Sodium Reduction in Baking:
- NO Salt:

Chapter 5: Sugars and Sweeteners

This chapter gets into it all. Most every type of sugar. How and where to use them, sweetness profile and application recommendations.

- Understanding Sugar Classifications
- Metabolic Similarities Across Organisms
- **Simple Sugars**
  Comprehensive look at all simple sugars
- **Syrups and Liquid Sweeteners**
  Comprehensive look at all types of liquid sweeteners like honey, agave nectar, corn syrup, maple to name a few
- **Malt Products**
  Detailed overview of syrups and powders.
- **Natural Sweet Concentrates**
  Detailed overview of fruit juice, concentrates .
  Date sugar, coconut syrups, paste and powders and special considerations when using..
- **Non-Nutritive Sugar Substitutes/Sweeteners**
  Details for using Stevia, Erythritol, Xylitol, Monk Fruit Extract, Allulose and more
- **Other Specialty Sweeteners**
  Other specialty sweeteners that you need to know about
- **Role of Sugars in Baking**
  What they do, and things to know about the different interactions of different sugars
- **THE RESEARCH CONTINUES**
  Latest sweetener technology and overview what's coming and what's available now.

Chapter 6: Fats, Oils and Emulsifiers

Simply everything you want to know about oils and fats including types, smoke points, health considerations and application ranges and recommendations.

- Oils and Fats in Baking: A Technical Overview
- The Science of Fats and Oils in Baking
  Explained in simple to understand terms.
- Common Fats and Oils in Baking
  Comprehensive list of fats, oils and hydrogenated products
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- What are Emulsifiers? 163
- The Science Behind How Emulsifiers Work: The Amphiphilic Nature
- Role of Emulsifiers in Creating Stable Mixtures (Emulsions)
- Emulsifiers in Baking: Specific Roles
- Common Emulsifiers in Baking
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The effects of Fat on Dough Rheology.

- Gluten Development and Network Formation**:**
- Dough Consistency and Handling:
- Aeration and Gas Retention:
- Flakiness and Layering (e.g., Pastry, Biscuits):
- Moisture Retention and Staling:
- Temperature Considerations.(pastry and fillings)

Chapter 7: Chemical Leavening

Probably more information than you ever really thought you needed but if you do…

- The Science of Chemical Leavening
- Main Types of Chemical Leavening Agents
- Impact on Crumb Structure, Flavor, and Color
- Mixing and Matching Leaveners
- Self-Rising Flour
  Overview, applications and Make your Own SRF

Chapter 8: Fibers Used In Baking

This chapter digs into a broad range of fibers, fibrous sweeteners moving well beyond common mainstream baking, for health inspired options and alternatives you may want to consider.

- Common Types and Sources used in baking
- Less Commonly Used Fibers in Baking
- General Considerations When Using Fibers in Baking:

Chapter 9: Proteins

I think this list of secondary headings sets the stage for the comprehensive 3rd level of protein options and cool tech in this area.

- The Impact of Protein on Dough Systems and Baked Goods
- Proteins Commonly Used in Baking
- Other Emerging Proteins in Baking
- Latest Technology in Plant-Based Proteins for Baking
- New Technology proteins you can find now
- Emerging Seed-Based Proteins in Baking
- Other Emerging Plant-Based Proteins in Baking:
- How High Protein Additives Affect Dough Hydration
- Practical Implications for Bakers
- Protein Denaturation & Coagulation: The Foundation of Baked Good Structure
- What are Proteins?
- The Process: Denaturation to Coagulation
- The Interplay in a Baking Environment

Chapter 10: Yeast Inhibiting Ingredients

Ingredients That Inhibit Yeast Activity

A detailed overview of the ingredients that inhibit yeast beyond just the basics of salt, sugar and oil . Includes acids, preservatives, spices, high protein and many other ingredients in detail. Of course, how to adjust based on usage is also provided.

Chapter 11: Oxidation and Reduction

What these are, what they do, how to use them and why. Includes usage rates and applications.

Chapter 12: Common Additives- What's This?

What is all this chemical sounding stuff that bakeries use and why? If I want to use any of these how much do I use, for what products, for what benefits?

- Oxidizing Agents (Dough Improvers)
- Reducing Agents
- Emulsifiers and Dough Conditioners
- Preservatives
- Bleaching Agents
- Nutritional Fortification
- Enzymes
- Other Additives

Chapter 13: Preservatives

Deep look into preservatives. Why they are used, how much do I use and natural alternatives way beyond just vinegar.

- Microbial Inhibitors (Mold and Bacterial Spoilage)
- Other Mold Inhibitors
- Important Considerations for Preservative Use:
- Natural Preservative Options
- Emerging Preservation Technology
- Natural Ingredients with Cell-Disrupting or Other Antimicrobial Properties
- II. Latest Technology and "Clean Label" Trends in Anti-Staling and Anti-Mold
- Anti-Staling: Advanced and Natural Preservation

Chapter 14: Enrichment

This section spans a very large section of ingredients used as enrichment for baked goods. This is not just common enrichment like eggs milk or sugar but covers a host of other inclusions you want to know about.

Chapter 15: Flavoring and Spices

What ever you are looking for is included in here, as well as things you may never have considered that fall under the categories below.

- 1. Extracts
- 2. Spices (Ground and Whole)
- 3. Zests and Juices (Citrus)
- 4. Flavoring Oils/Emulsions
- 5. Other Flavorings

Chapter 16: Acids, Alkaline and pH

This chapter will give you new insight into the importance of Acid in baking and pH. Understanding this can improve the quality of your baked goods significantly and assist with trouble shooting especially chemical leavened bakery items.

- Acid Development in Yeast Raised Products
- How Acids are Created in Bread Dough
- Why Acids are Important for Yeast-Raised Products
- pH – Role in Breadmaking
- pH in Bread Dough
- Why pH is Important in Bread Making
- Standard Finished Ranges to Target for Sourdough
- Acids in Chemical Leaven Baking
- Alkaline Ingredients in Baking
- Importance of pH in Chemically Leavened Products

Chapter 17: Starches – How they work

- What is Starch?
- How Starch Thickens and Sets (Gelatinization)
- Why Does This Matter for Your Baking?
- The "Staling" Connection (Retrogradation)
- Deep Look at Starches
    - Cereal Starches (from Grains)
    - Root/Tuber Starches
    - Other Relevant Starches/Flours

Chapter 18: Ingredient Interactions & Troubleshooting

- Synergistic and Antagonistic Relationships: The Ingredient Dance
- Impact of Proportions: Small Changes, Big Results
- Common Baking Problems & Ingredient-Related Solutions: Diagnosing Your Bakes
- Substitution Guide: Navigating Recipe Adjustments with Precision

Chapter 19: Other Key Ingredient Considerations

Volumetric Measures – Skip these for success!
All the things that can go wrong when baking by volume.

25% Rule
Important considerations when adding non-gluten ingredients.

Interactions
Things to know about interactions between ingredients

Set UP Formulas So You Can Understand Them
A guide to proper formula set up for quick analysis, corrections and bake planning.

Dealing with Micro-Scaling. The Solution.
Dealing with ingredients that require micro scaling. How to sort this out in your kitchen.

Glossary of Ingredients A-Z
*This glossary is A-Z and spans **40 pages** of every baking ingredient you may want to find information on. Clickable index provides quick navigation*