

BISCUITS UNLOCKED

SCIENCE, CRAFT AND INSPIRATION

PREVIEW ONLY

CALLEBAUT®
CHOCOLATE ACADEMY

COURSE AGENDA

**Upon purchasing the course you will get access to the entire workbook.
In this preview, we give you a sneak peek of theory, equipment and recipes.**

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THEORY

TESTING FLOURS AND SUBSTITUTES

Testing Flours and Substitutes (Lesson 0.5)

We explored the role of flour in our base recipe by replacing it either partially or entirely with other similar ingredients. Our reference recipe, A1, is made with cake flour. We conducted nine different tests, replacing the cake flour totally or partially with strong flour, wholemeal flour, stone-ground wheat flour, cornflour (cornstarch), a custom gluten-free flour mix, rice flour, and almond flour. We also tested the effect of cocoa powder, both natural and Dutched, on our recipe.

Our goal was to determine the impact of each different ingredient on the colour, flavour, and texture of our base sablé by observing the effect of changes to the base recipe.

Type of Flour	Recipe	Qty (%)
Cake flour	A1 (reference)	49.3%
Strong flour	B1	49.3%
Wholemeal flour	B2	49.3%
Stone-ground wholemeal flour	B3	49.3%
Cornflour + cake flour	B4	9.4%, 39.9%
Gluten-Free mix	B5	49.3%
Rice flour (gluten-free)	B6	49.3%
Natural cocoa powder + cake flour	B7	5.01%, 44.32%
Alkalised cocoa powder + cake flour	B8	5.01%, 44.32%
Almond flour + cake flour	B9	17.69%, 34.64%

The Impact Of Different Flours On Colour

As one would expect, the sablés made with wholemeal flour and those made with cocoa powder were notably darker in colour than the base sablé. The sablé made with alkalised (Dutched) cocoa powder was darker than that made with natural cocoa powder.

Interestingly, the vegetable proteins present in our custom gluten-free blend of flours produce a slightly darker baked sablé, as did almond flour.

The sablé that was lightest in colour was the one made with cornflour.

The Impact Of Different Flours On Flavour

Our tests with wholemeal and stone-ground wheat flour produced a noticeable cereal flavour.

In our recipe using cornflour, we substituted cornflour for 10% of the cake flour, and we found the flavour of the cornflour to be too assertive. If you prefer the friable texture of biscuits made with cornflour, we recommend substituting no more than 5% of the flour with cornflour.

Gluten-free options continue to grow in popularity, so the following two tests were of particular interest. Biscuits made with rice flour had an undeniable rice flour flavour. Our custom gluten-free blend, however, had a more balanced flavour.

It is not surprising that biscuits made with cocoa powder had clear cocoa flavours. What you will want to note is that the biscuit made with natural cocoa powder had a subtle and delicate flavour that made us think of chocolate (not cocoa). The biscuit made with alkalised cocoa powder had a very rounded and more assertive flavour with a darker colour.

Our test recipe with almond flour produced a baked biscuit with a marked almond flavour. For us, this opens the door to replacing the almond flour with other powdered nuts such as pistachios.

The Impact of Different Flours on Texture

The sablé made with strong flour had a texture very similar to our base recipe. However, we noticed that the sablé made with strong flour held its shape better than our reference version, which is likely due to the higher protein content of the strong flour. However, as we mentioned in the Mixing lesson, due to the low percentage of water in the recipe and the high percentage of fat and sugar, gluten development is not significant.

Our tests made with wholemeal and stone-ground wheat flour produced sablés with a more fragile texture. Substituting cornflour yielded a crumbly biscuit, and rice flour produced a biscuit with a sandy texture with notable rice granules.

The recipes that incorporated cocoa powder produced drier biscuits. Cocoa powder competes for the water in the recipe (contributed by the butter and eggs), and additional water would need to be added to produce a texture similar to that of our reference biscuit.

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EQUIPMENT LIST

Most of the tools our chefs use in the videos are standard equipment in any kitchen. However, there are a few specialty items that you may wish to seek out before beginning to recreate the recipes. It is not necessary to have each of the tools listed here, and you may adapt your technique to the tools you have, but you will find that these items make the job of perfecting the recipes much easier.

Standard Kitchen Equipment

- ✓ Baking parchment
- ✓ Chopping boards
- ✓ Cling film
- ✓ Convection oven
- ✓ Food processor
- ✓ Freezer (-20°C) or Blast freezer
- ✓ Gloves
- ✓ Guitar sheets
- ✓ Hand blender
- ✓ Induction burner
- ✓ Infrared thermometer
- ✓ Knives
- ✓ Microwave
- ✓ Micro scale
- ✓ Offset palette knife
- ✓ Piping bags
- ✓ Piping tips
- ✓ Probe thermometer
- ✓ Refrigerator
- ✓ Scale
- ✓ Scissors
- ✓ Sieves
- ✓ Silicone mats, perforated
- ✓ Silpats
- ✓ Spatulas
- ✓ Spoons
- ✓ Stand mixer
- ✓ Strainers
- ✓ Trays 60 x 40 cm
- ✓ Whisks

For the sablées, interiors and chocolate decorations

- ✓ 7 cm round fluted cutter
- ✓ Silicone moulds with 6 cm diameter discs
- ✓ Stencil with 5 cm diameter circles
- ✓ Custom stamp (optional)

Specific to This Course, Required

- ✓ Flat plaque, 60 x 40 cm, Methacrylate or similar

Optional

- ✓ Chocolate grinder (melanger)
- ✓ Chocolate enrobing belt for tempering machines
- ✓ Chocolate fridge (16°C)
- ✓ Chocolate machines for tempering
- ✓ Rulers for rolling dough
- ✓ Spray gun and compressor
- ✓ pH meter
- ✓ Refractometer

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PREVIEW

Get a taste of our "Biscuits Unlocked" with this preview featuring the "Cocoa-Raspberry-Aniseed Biscuit" recipe.

COCOA-RASPBERRY-ANISEED **BISCUIT**



Yield: Approximately 40 biscuits
Equipment: 7cm round fluted cutter, Silicone moulds with 6 cm diameter discs, Stencil with 5 cm diameter circles

Component 1: **Cocoa Sablé**

Ingredient	Qty (g)	Qty (%)
Butter	400 g	30.14%
Fine salt	5 g	0.38%
Confectioner's sugar	200 g	15.07%
Whole eggs	84 g	6.33%
Cake flour	500 g	37.68%
Baking Powder	8 g	0.60%
Callebaut Zestina Plein Arome Cocoa Powder	64 g	4.82%
Cornstarch	66 g	4.97%

Yield: 1327 g

Method

1. Before you begin, bring the eggs and the butter to room temperature.
   Sift the confectioner's sugar, cake flour and baking powder.
   If using fresh eggs, whisk them to break up the whites.
2. Mix the butter, salt, and confectioner's sugar in the bowl of a stand mixer fitted with the paddle attachment.
3. Add the eggs slowly in a steady stream.
4. Combine flour and the baking powder, mixing thoroughly.
5. Combine the cocoa powder and the starch.
6. Add all of the dry ingredients to the bowl with the butter and mix on low speed until combined.
7. Knead the dough a little on the table to bring it together, then divide it in half to make it easier to roll.
8. Roll the dough between two pieces of plastic to a thickness of 4 mm.
9. Reserve in the refrigerator for at least a few hours.
10. Once chilled, cut the dough into 7 cm diameter discs using a fluted cutter and place them on a baking tray lined with a perforated silicone mat. Re-roll the scraps of dough, then chill and cut to create more discs.
11. Top the discs with a second perforated silicone mat.
12. Bake for approximately 24 minutes at 160°C with the fan on low.

The biscuits will retain their shape better during baking if the discs have been chilled.



CALLEBAUT ZESTINA PLEIN ARÔME COCOA POWDER

Bold Cocoa with a Touch of Fruity Brightness.

View product

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TROUBLESHOOTING

PROBLEM	REASON	SOLUTION
The raspberry fruit paste sets too quickly, and there is no time to dose it into the frame.	You didn't check the PH level of the mixture before making the fruit jelly.	Verify that the PH level is between 3.3 and 3.5 by adjusting it with trisodium citrate or citric acid.
The velvet effect does not form when painting with chocolate paint.	Chocolate decorations are not cold enough to achieve the velvet effect.	Chocolate decorations at a temperature of -18°C and paint with the chocolate paint at 35°C.
The lemon and vanilla sugar glaze falls off and does not adhere properly to the olive oil disc.	The glaze is water-based and slips when it comes into contact with the olive oil disc, which is fat-based and repels it.	Heat the surface of the olive oil disc and sprinkle dextrose on it to coat the fatty surface. This way, the glaze and the olive oil disc won't repel each other.
The sablé dough appears to be separated when the egg is added.	The egg was either too cold and/or was added too quickly.	Add the egg at room temperature and add it gradually.
The chocolate layer coating the biscuits is too thick.	The biscuit is cold, or there was insufficient air flow and vibration.	Check that the biscuit is at 20°C. Increase the airflow and vibration.
When enrobing by machine, there is a thick layer of chocolate on the base and the bottom of the sides with excess chocolate.	The parameters of the chocolate enrobing belt machine were incorrectly calibrated.	Adjust the settings of the enrobing machine (air flow, vibration, speed, etc.).
I can see lumps of powdered sugar, baking powder, cocoa powder, or flour when laminating the sablé dough.	The dry products have not been sieved.	Sift dry products to avoid lumps and obtain a homogeneous dough.
When laminating the sablé dough, it breaks or cracks.	The dough is too cold.	Let the dough temper slightly so that it becomes a little more malleable.
The sour cherry jelly is too thick, and I'm unable to pipe it.	The structure needs to be broken after reaching 70-75° Brix, or you may have exceeded the °Brix.	When cooking, do not exceed 70-75°Brix. After jelling, remember to break the structure in order to pipe the jelly.

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OUR CHEF'S PRODUCT RECOMMENDATIONS



CHOCOLATE

Callebaut Selection



Callebaut Velvet White Chocolate 32%

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Callebaut Gold Chocolate 30%

View product



Callebaut 823 Milk Chocolate 33%

View product



Callebaut Power 41 Milk Chocolate 41%

View product



Callebaut 70-30-38 Extra Bitter Dark Chocolate 70%

View product

Callebaut Signature Collection - Single Origin



Callebaut Zestina Dominican Republic Dark Chocolate 70%

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COCOA PRODUCTS



Callebaut Cocoa Butter

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COCOA POWDERS



Callebaut Zestina Plein Arome Cocoa Powder

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THE ART OF VIENNOISERIE

FROM THEORY TO PERFECT LAMINATION

BY ROMAIN DUFOUR

In this class you will learn

- The role of each ingredient in your Viennoiserie product
- Which lamination to choose
- How to experiment with flavours and textures

This course will equip you with the knowledge and confidence to create stunning laminated pastries in innovative shapes and remarkable flavours!

JOIN THE CLASS!

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