

JEAN-PIERRE WYBAUW

# Fine chocolates

## GOLD

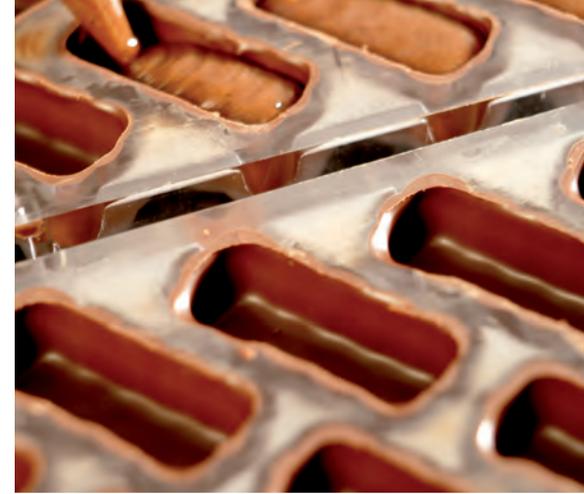
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# PREFACE

It was more than 15 years ago that the first book in the 'Fine Chocolates' series was published: its ambition was to be a functional and practical specialist book for beginners as well as experienced professional chocolatiers. In subsequent years, three new titles appeared in the same series, each one inspired by fresh insights into a rapidly evolving world. Due to new knowledge about ingredients, changing market demands and new production methods I felt the need to complement, elaborate or improve the content of the first book. Consequently, ganaches, shelf life and recipe creation were successively and extensively discussed.

As a matter of fact, fifteen years later I go back to where it all started at the time, the ambition to bundle all the available knowledge related to working with chocolate into a practical and functional specialist book for professionals. In doing so I have made a careful selection from previously published chapters. In the reworking process, I have also tried to take into account all feedback, reactions and questions received over the years. Due to the many improvements and adjustments it has eventually become a new book rather than a compilation or updated snapshot of the knowledge and skills I originally wanted to share with today's professionals.

*Fine Chocolates Gold* consists of three parts. In Part I the basic principles related to working with chocolate are discussed. Part II is centred around recipes. In addition to older recipes – which have all been reworked and improved – this part also features numerous new recipes. Each recipe also lists the AW value as an important indicator for shelf life. Lastly, Part III, takes a closer look at the



theoretical and scientific aspects of the processes that are important when processing chocolate.

I not only hope that everyone will enjoy reading the book, but also that everyone will have loads of fun while working with and tasting the most delicious of delicacies that is chocolate.

May 2016

*Jean-Pierre Wybauw*

# A FEW SWEET IMPRESSIONS BY THE WORLD'S GREAT MASTERS

'Jean-Pierre Wybauw is one of those personalities we would like to meet more often in the chocolate industry. Not only is he a mine of information on all things chocolate, he is also a very kind hearted man, always available and willing to share his knowledge. He is admired by an entire generation of apprentice chocolatiers.

He is a true enthusiast, whose in-depth knowledge of the trade is matched by a passion to communicate this know-how to as many people as possible. His current work promises to be a benchmark for the future.

To those who meet him, Jean-Pierre manages to convey his great love of chocolate as an object of sweetness, his fondness for food and his ebullient and dynamic nature – the very essence of his profession as a chocolatier.

At the time of our last meeting I was a mere adolescent and his impressive chocolate sculpture displays at "Euroba" will be forever engraved upon my memory and were the inspiration of my vocation as a chocolatier. His chocolate sculptures are delicate and fleeting masterpieces, expressions of art based on sweetness and contrasts, admired by amateurs and professionals alike.

During our meetings Jean-Pierre introduced me to the brotherhood of which he was a product, the Richmond Club of Belgium whose members included the elite of Belgian patissiers. These individuals, whom I longed to emulate, not only provided a range of extraordinary know-how but also presented a noble and passionate vision of the trade. This was based on continually evolving creativity and respect for the artisan's craft – something I still defend with the same gusto to this day.

Jean-Pierre Wybauw is much more than a mere representative of this elite. He is, most definitely, a figurehead since his talent and love of the profession continue to be an example for new generations of chocolatiers, keen to learn and discover the alchemic secrets of this wonderful trade. Because of his modesty, listening skills and accessibility for young up and coming talent, Jean-Pierre Wybauw could be considered an open book on the profession of chocolatier.

I feel it an honour to be able to express my gratitude and admiration today to a man whose dynamic nature has introduced me to the magic of chocolate, its technical secrets and expressive power. I hope that readers of this book will gain as much pleasure from browsing through its pages as I had discovering the many facets of Jean-Pierre Wybauw's personality.'

Pierre Marcolini  
MASTER CHOCOLATIER, BELGIUM

'Dear Jean Pierre!

It is a great honour for me to be able to dedicate these lines to you in your new project. I wish you loads of success and hope you are already working on your next book that will continue to educate and inspire new generations of chocolatiers.

Congratulations Mr Chocolate!'

Ramon Morató Parés  
BARCELONA, SPAIN





‘Jean Pierre Wybauw is one of the world’s greatest chocolate specialists, in the knowledge of material, production and the way of treating it, as well as in the diversity of the chocolate and its application techniques. His knowledge on the subject is no less than impressive and all his publications on chocolate to date fully support this statement. This new volume of *Fine Chocolates* only confirms this rare and unique knowledge of chocolate acquired over the years. In it, Jean-Pierre Wybauw remarkably puts into practice his technical and creative background, with at the same time, an in-depth look at flavours and flavour associations. I am delighted to be able to show my admiration in this preface and hope that he will continue on this path of excellence that he mapped out, as required by our profession.’

Pierre Hermé  
PARIS

‘At the end of November 2003 Jean-Pierre mentioned to me that he was finally going to write his own book, an idea that had occurred to him many years before. I knew straight away that this was not going to be just another book, one of the many already dedicated to chocolate. Those of us who know him, and his struggles between various exhibitions, are also familiar with his knowledge, composure and professionalism, which are equalled by his passion for his vocation.

Specialisation, perspective, technique, functionality and rationality in particular (all qualities that define him as a person) must have been on his mind even before he had written his first word. As you will see it is an inexhaustible source of ideas and will be appreciated by those who, like me, are looking for something more than just recipes in a book.’

Albert Adrià  
SPAIN

‘In *Fine Chocolates*, Chef Jean-Pierre Wybauw not only provides his readers with recipes, he also shares the concepts, techniques, and technical knowledge they need to create unique chocolates of their own. It is a book unlike any other that makes the unlimited world of chocolate confectionery accessible to his international audience.’

Sébastien Canonne  
MOF THE FRENCH PASTRY SCHOOL

‘Thank you, Jean-Pierre Wybauw, for sharing more of your endless knowledge and unchallenged skills. You have once again enriched the art of confectionery for thousands of professionals and enthusiasts alike all over the world. This new edition effectively documents how to use flavours, enhance and combine them, and most importantly, how to create individually characteristic chocolates. It is like bringing colour and light into darkness! This book truly is an indispensable companion to your previous copies, which will never collect dust.’

Ewald Notter  
USA

‘Finally, a book about chocolate that is an indispensable tool for all chocolatiers, both beginners and professionals. While working with chocolate seems fun and easy, an in-depth knowledge of the chemistry of chocolate is essential to achieve a consistent, smooth and delectable product. The composition of raw products is explained so that you will be able to formulate your own chocolate candy recipes. This chocolate bible provides the answers to all your possible troubleshooting questions.’

Chef Jacquy Pfeiffer  
THE FRENCH PASTRY SCHOOL



'This book is an excellent tool and guide for all enthusiasts who want to work with the splendid substance that is chocolate. It is also an accomplished masterpiece as a record of Jean-Pierre's entire career – the career of a discrete, humble and passionate professional. I hope this book will help its many readers to find solutions to the countless questions they are likely to encounter along their professional paths.

I can only recommend that those who love to work with chocolate consult it regularly and would like to send my heartfelt congratulations to its author.'

Marc Debailleul  
MOF FRANCE

'At last a book that professional chocolatiers can call their own. Jean-Pierre Wybauw, otherwise known as Mr. Chocolate, has come through with the ultimate text on chocolate. I find myself very fortunate being able to scan through the pages of Mr. Wybauw's life long experience. With each page comes a wealth of information from the basics of chocolate to the in depth interactions of ingredients within a ganache. The photos are stunning and the information is laid out in a clear, concise manner. This is one of the few books that will remain at my bedside and upon my work bench.'

Thomas Gumpel  
USA

'Finally, a book that is both attractive and technical...an indispensable tool to help professionals understand and master the complexity of chocolate. Jean-Pierre shares his passion and the knowledge of a long career. I highly recommend it!'

Jacques Torres  
NEW YORK

'Dear colleagues,

It is a great honour for me to preface this new book by Jean-Pierre Wybauw. Jean-Pierre, to me is 'Mr Chocolate', a true globe-trotter who never tires of sharing his passion and knowledge. A true walking encyclopaedia on chocolate, Jean-Pierre has contributed significantly to the world of modern chocolate-making. Our amazing profession of Pâtissier/Chocolatier needs distinguished professionals like him to continue to exist and progress. Thank you Jean-Pierre for your work. I wish you lots of well-deserved success for this new book, which undoubtedly will not fail to give rise to new callings among our young professionals.

With all of my gourmet friendship.'

Chef Stéphane Glacier  
MOF FRANCE

'Chocolate has been inspiring the world for hundreds of years. It is among the luxury foods that speak most to the imagination. For some the passion for chocolate is so strong that they make it their profession.

Jean-Pierre Wybauw is such a professional, who seems to have liquid chocolate rather than blood running through his veins. The man embodies chocolate!

During the National and World Party Team Championship in the US, I got to know Jean-Pierre as a modest, quiet professional who prefers giving to receiving. This wonderful book is a good example of this.

The best way to thank Jean-Pierre for all his knowledge and energy is by using and consulting his book extensively. If the pages are "soiled and thumbbed" by chocolate fingers after some time, it will be the silent testimony to this book's value.

Jean-Pierre, congrats and thank you!'

Rudolph van Veen  
THE NETHERLANDS

# I The base

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# INGREDIENTS

Each ingredient has its own specific characteristics. Some ingredients protect the recipe against drying or extend its shelf life.

When various ingredients are combined in a recipe, some blend well but others, such as fats and water, do not.

Recipe creators should understand the characteristics of their ingredients and ensure that the recipes are based on a 'good marriage'.

## Cacao ingredients

### Chocolate

Chocolate is a dispersion of fine particles of solids (cocoa, sugar and milk powder) in cocoa butter. The term 'chocolate' must meet legal requirements, but almost all countries have their own standards for chocolate. Furthermore, international standards are laid down by the Food and Agricultural Organisation of the United Nations (FAO) and the World Health Organisation (WHO) in the Codex Alimentarius. That is why it is not relevant to give figures. Roughly speaking all dark chocolates contain at least 30-35% cocoa components, and at least 18% cocoa butter. A quality reference contains at least 26% cocoa butter. Chocolate coating at least 31%. Milk chocolate contains 20-25% cocoa components.

Milk chocolate also contains milk fat, i.e. the total of cocoa butter and milk fat. This is why household milk chocolate should contain a total of at least 25% fat. Milk chocolate coating a total of at least 31% fat. White chocolate contains at least 20% cocoa butter and 12-14% milk components.



Because of the high cocoa/butter ratio the name 'couverture' refers to quality aspects that result in:

- Better melting in the mouth.
- More pleasant and richer experience (not as dry).
- Better snap.
- Higher degree of liquidity upon processing.
- Higher cost price.

When putting together recipes in which chocolate is processed, some factors need to be taken into account.

#### FOR DARK CHOCOLATE

- Dry cocoa components give the (bitter) chocolate taste and colour.
- The sugar in the chocolate makes the recipe sweeter.
- The cocoa butter determines the firmness of the centre.

#### FOR MILK CHOCOLATE

- Dry cocoa components give the chocolate flavour.
- The sugar makes the recipe sweeter than when using dark chocolate, since the strong and bitter cocoa taste is significantly toned down by the high milk content.
- Milk fats influence the structure: they create a smooth effect, since milk fat is much smoother than cocoa butter.
- The behaviour of cocoa butter is very much influenced by the blending of various fats.

#### FOR WHITE CHOCOLATE

- Sugar determines the sweetness of the recipe.
- Milk powders create a full, creamy flavour.
- The combination of cocoa butter and milk fat give a smooth effect.
- The behaviour of cocoa butter is very much influenced by the blending of various fats.

Consequently, the choice of chocolate is not the only important factor, the amount of cocoa butter the chocolate contains is also significant.

The chocolate not only acts as a flavouring but, more importantly, determines the texture. Because of its high cocoa butter content it is best to use high-fat chocolate (couverture). For a high quality ganache a total fat content of approximately 40% is recommended. This is why cream is used as a liquid in most ganaches, although other liquids, such as infusions, coffee and liqueurs may also be used. In these cases the fat content must be complemented by adding butter or a vegetable fat.

#### FOR EXAMPLE

- Hazelnuts contain approximately 64% oil
- Standard dark chocolate contains approximately 35% cocoa butter
- Standard milk chocolate contains approximately 30% cocoa butter
- Standard white chocolate contains approximately 28% cocoa butter
- Praliné paste contains 50% sugar and 50% hazelnuts

1000 g praliné mixed with 500 g dark chocolate containing approximately 35% cocoa butter has an attractive soft yet sliceable texture. 320 g nut oil was mixed with 175 g cocoa butter.



With the use of 30% milk chocolate the butter fat contained in this chocolate is taken into account. In order to obtain the same texture as with dark chocolate 60% milk chocolate must now be added to 1000 g praliné. When using white chocolate 70% chocolate is added to 1000 g praliné.

### Nibs

Nibs are cleaned cocoa beans, free from bacteria, roasted and chopped into fragments. They have a strong taste and add flavour and aroma to centres. They are used in centres to give a crunchy effect and give sweet centres a bittersweet balance. They are also used for finishing.

### Cacao mass or cacao liqueur

100% cleaned cocoa beans, free from bacteria, roasted, broken and then finely ground. Since cocoa beans are very rich in cocoa butter (approx. 55%) a very liquid, dark brown, bitter and somewhat sour paste is obtained after grinding. An ideal product to give a strong cocoa flavour to centres, with little influence on texture.

### Cacao butter

Cocoa butter is a product of the cocoa bean, which can contain up to 55% cocoa butter. Taste, odour, solidifying behaviour and hardness can differ, depending on origin. This is how the taste can vary from no cocoa taste (neutral) to palpable cocoa taste and how Malay cocoa butter is noticeably harder than Brazilian butter.

Cocoa butter gives gloss, hardness and shrinkage to the chocolate. The higher the cocoa butter content in the chocolate, the more attractive the appearance of the end product. When producing pralines cocoa butter is used to:

- dilute the chocolate (for extra thin cover or spraying with airbrush);
- harden centres, without making them sweeter (as by adding chocolate);
- mix with fat soluble colouring agents (to colour chocolate);
- protect marzipan against drying out (by covering with thin coat of cocoa butter).

### Cocoa powder

Cocoa powder is the (partially) dry substance that remains after separating cocoa butter from the cocoa mass. Cocoa powder is used for its taste as well as its colour. There is a difference between:

- Low fat cocoa powder (contains approximately 10-12% cocoa butter).
- Whole cocoa powder (contains approximately 20-22% cocoa butter). American terminology differs from British terminology.
- Alkalised cocoa powder (alkalising means making alkaline or neutralising sour taste). Alkalising darkens the cocoa powder and makes it more easily soluble in a watery environment.
- Non-alkalised cocoa powder (makes creams or ganaches curdle more rapidly).



## Sugars

### Sucrose (sugar)

Sucrose has a strong sweetening power of 100 and provides a firm texture. It extends shelf life, but has the property to crystallise (granulate) during oversaturation. It also lowers the  $A_w$  value. Sucrose is not soluble in alcohol. Since it is a cheap ingredient, it lowers the cost price of the product. When caramelised it imparts aroma and colour.

### Glucose syrup

Glucose syrup is a watery solution consisting of several sugars: glucose (dextrose), maltose, triose and higher sugars. From a chemical point of view, glucose is dextrose, but in everyday language it is referred to as glucose syrup. It has the property of

inhibiting and slowing down the crystallisation of sugars. Glucose lowers the  $A_w$  value and imparts aroma and colour when heated. Most frequently used is glucose of:

- 43° Baumé = 80% dry substance
- 45° Baumé = 85% dry substance

**Invert sugar** (sometimes referred to as Trimoline in everyday language)

Invert sugar has a sweetening power of 125. Invert sugar contains 50% dextrose + 50% fructose (on dry substance). It has the property of inhibiting crystallisation and lowers the  $A_w$  value if not heated above 70°C (158°F). Invert sugar works hygroscopically and is a desirable ingredient in items with high water content, which must remain soft during storage. Any excess can nonetheless lead to stickiness and syrup separation. Up to 25% will typically yield a good result. When heated it imparts aroma and colour.

### Sorbitol (E420)

Sorbitol has a sweetening power of 50. The dosage is 5 to 10%. Its use is regulated in some countries.

Sorbitol comes in two forms: powder and concentrated (70% dry substance). It has the property of inhibiting crystallisation and has a preserving and stabilising effect. Sorbitol also lowers the  $A_w$  value and works hygroscopically. Sorbitol is a limited moisture stabiliser, which prevents drying. It has a cooling effect on the tongue. This sweetener tolerates high temperatures, but discolouration occurs (brown) between 150 and 70°C (302–338°F). Sorbitol is highly stable for acids, enzymes and temperatures to 140°C (248°F).



## Dairy products

### Cream

Cream is a fat emulsion in water. Cream has a fat content from 30% to 40% and consists of approximately 60% to 70% water. The average composition for 100 g cream is: 57.71 g water, 2.05 g egg whites and 37 g butter fat. The remainder is made up of carbohydrates.

Its high water content gives cream mixtures an airy, smooth texture, but also results in a fairly short shelf life of approximately one week. Combined with the correct ingredients shelf life can be considerably extended. However, combined with the incorrect ingredients the texture changes after a short period (drying, recrystallising, moisturising).

For creating crèmes in this book, cream with a 40% fat content is typically used.

### Milk powder

Milk powder gives milk chocolate and white chocolate as well as centres a specific flavour. It is prepared by removing water from the milk until only dry substances remain. This takes place by thickening (condensing), after which the result is *spray-dried* or dried on heated rollers, also referred to as *hatmaker drying*). Spray-dried milk powder is preferable as it dissolves more easily and is finer.

Whole milk powder contains maximum 5% water, at least 25–30% fat and 70% fat-free dry milk components. The average composition of whole milk powder per 100 g is: 2.47 g water, 26.32 g egg whites, 26.71 g butter fat, 6.08 g ash and 38.42 g carbohydrates (sugars). Low-fat milk powder contains a maximum of 5% water and minimum of 95% fat-free dry milk components. The average composition of low-fat milk powder per 100 g is: 3.16 g water, 36.16 g egg whites, 0.77 g butter fat, 7.93 g ash and 51.98 g carbohydrates (sugars).

### Milk crumb

*Crumb* is produced in accordance with a special drying process whereby sugar and potentially cocoa mass is added to the milk. This is generally condensed and dried in a vacuum oven condensed and dried, which results in a strong Mail-

lard reaction and leads to a very fine caramel-like and creamy aroma. *Crumb* composition varies from company to company. A global composition is 53% to 58% sugar(s) and 32% to 38% milk components, 5% to 14% cocoa mass. *Crumb* has a high milk fat content.

### Blok milk

Blok milk powder is version of crumb. It consists of condensed milk in which sugar is dissolved and that is dried and ground under low pressure. It is made up of 50% milk and 50% sugar. By drying under low pressure the whole milk flavour remains.



Aw: 0.84

# Aniseed truffles

RECIPE	%
350 g cream 35%	27.56
40 g glucose	3.15
80g honey	6.30
130 g butter	10.24
630 g dark chocolate	49.61
40 g anise-flavoured liqueur (such as raki or ouzo)	3.15

Batch size: 1270 g

## METHOD

- Bring the cream, glucose and honey to the boil.
- Cover and leave to cool to approximately 30°C (85°F).
- Soften the butter in a mixer (KitchenAid) and add the cream mixture while stirring.
- Fold in the precrystallised chocolate and blend into a homogeneous, smooth mass.
- Lastly, stir in the liqueur.

## FINISHING TOUCH

- Pipe your choice of oval or spherical truffles onto a Silpat mat or fat-free paper. To do so use a 8-mm smooth tip.
- Leave to crystallise in the refrigerator for a few hours.
- Dip in dark or milk chocolate and roll in the decoration of your choice.

**YIELD**  
approximately 200



Aw: 0.82

# Praliné ganache

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## RECIPE

500 g cream  
100 g glucose  
500 g praliné (50/50)  
300 g milk chocolate  
100 g dark chocolate  
black pepper, as needed  
Batch size: 1490 g

%

33.33

6.67

33.33

20.00

6.67

## METHOD

- Combine the praliné with the chocolate. Bring the cream, the glucose and potentially the pepper, to the boil and pour over the chocolate drops. Allow the mixture to cool.
- Fill the moulds and allow the chocolate to harden. Pipe centres into the chocolate shells using a smooth decorating tip. Allow to slightly crust. Seal the shells with chocolate.

## YIELD

approximately 235



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