



Flavor Dynamics

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Notes on Flavor and Texture

- “Interesting” doesn’t always translate into “tasting good”
- Trial and error will be your constant companion
- Keep it simple. Don’t try and combine more than 2 or 3 flavors.
 - Think about what flavor you taste first and last (aftertaste)
 - “Mouth feel” is important. Creamy & smooth vs. crystalline. Moist vs. dry
- Not all combinations will work due to the amount of water in the ingredients
 - Using liqueurs will add flavor, reduce water content, and improve shelf life
 - Not all customers will accept alcohol in your product. Other sugars (glucose, invert) can bind water and extend shelf life.
- Think about contrasts as well as complements
 - Raspberry & wasabi (sweet & hot)
 - Strawberry & balsamic (sweet & sweet acid)
 - Salted caramel – (sweet & salt)
 - Bacon (savory, smoke)



Notes on Flavor and Texture

- Consider adding “texture” as well as flavor
 - Nuts, feuilletine, “pop rocks”, jam or pâte de fruit
- Trust your own tastes
- Buttery and smooth work well together
- Bitter or sour are bad indicators
- Not everyone will like what you like



Consumer Trends

- Nostalgia based
 - Seek comfort in sweets from childhood but still want bold flavor profiles
- Indulgence
 - Consumers need a break and are indulging in exciting – and affordable sweets to provide escape, reward and just plain delight
- Flavor Adventure
 - Plain old Chocolate and Vanilla are not enough
 - Seeking excitement from confections that represent a global palate
 - Exotic and varietal fruits (Aged organic Papaya, New Guinea Vanilla?)
- Artisan Appeal
 - Confections that are hand made with well-chosen ingredients and reflect local and sustainable production are winning over more and more consumers



Choose Your Chocolate

- Source your chocolate to your needs
 - Chocolates have “flavor profiles” which you can “match” to your bon bons.
 - “Varietal” or “single origin” chocolates have been in vogue for some time.
 - You will need to balance the number of different chocolates you use against your costs and ability to store them
- Choose a chocolate that works well with your flavors
 - White Chocolates
 - Strong dairy and sweet notes
 - Good with fruits
 - Milk Chocolates
 - Strong dairy and/or caramel notes
 - Pairs well with nuts (gianduja), praline
 - Dark Chocolates
 - More complex flavor notes, bittersweet
 - Can handle more acidic and/or stronger flavors (e.g. spicy, dark red fruits)
 - Think about using “darker” or “lighter” chocolates within “dark” and “milk” categories to your advantage



Chocolate and Herb Pairings

From: "Making Artisan Chocolates" by Andrew Garrison Shotts, p. 59

	Dark Chocolate	Milk Chocolate	White Chocolate	Berries	Caramel	Citrus	Peanut Butter	Pineapple	Praline	Tea
Basil										
Lavender										
Lemongrass										
Lemon Verbena										
Mint										
Rosemary										
Thyme										



Honey & Thyme Truffle

Yield: approximately 60 pieces

- 140g milk chocolate, chopped
- 140g dark chocolate, chopped
- 70g heavy cream
- 6 sprigs fresh thyme
- 70g honey
- Pinch of salt
- 28g cocoa butter, melted
- 84g butter, soft
- Place the chocolates in a medium sized bowl and set aside
- Combine cream & thyme in small saucepan and heat to a simmer
- Let steep for 15 minutes
- Strain herbs from cream, add honey and salt and bring to a boil
- Pour hot cream over chocolate and stir slowly to form the ganache
- When the ganache has cooled to 95F (35C), add the cocoa butter and butter. Stir to combine.
- Let the ganache cool until firm enough to pipe
- Pipe onto parchment in small domes or into prepared molded shells
- If hand dipping, let piped centers dry overnight, hand roll to round balls, and dip in tempered chocolate.

From: "Making Artisan Chocolates" by Andrew Garrison Shotts, p. 96



Lemongrass & Coconut

Yield: approximately 60 pieces

- 308g milk chocolate, chopped
- 42g dark chocolate, chopped
- 98g heavy cream
- 56g coconut milk
- 2 stalks (4" [10cm]) fresh lemongrass, chopped
- 14g light corn syrup or glucose
- 14g butter, soft
- 14g (2 Tbsp) Mojito flavored liqueur (optional)
- Place the chocolates in a medium sized bowl and set aside
- Combine cream, coconut milk & lemongrass in small saucepan and heat to a simmer
- Let steep for 15 minutes
- Add corn syrup (glucose) and bring to a boil
- Pour hot cream through a fine seive over chocolate and stir slowly to form the ganache
- When the ganache has cooled to 95F (35C), add the butter and liqueur. Stir to combine.
- Let the ganache cool until firm enough to pipe
- Pipe onto parchment in small domes or into prepared molded shells
- If hand dipping, let piped centers dry overnight, hand roll to round balls, and dip in tempered chocolate.

From: "Making Artisan Chocolates" by Andrew Garrison Shotts, p. 93



Mint & Dark Chocolate

Yield: approximately 60 pieces

- 300g dark chocolate, chopped
 - 150g heavy cream
 - 30g glucose
 - 20g butter, soft
 - Mint oil (to taste)

 - Molded shells
- Place the chocolate in a medium sized bowl and set aside
 - Combine cream & glucose in small saucepan and heat to a boil
 - Pour hot cream over chocolate and stir slowly to form the ganache
 - When the ganache has cooled to 95F (35C), add the butter. Stir to combine.
 - Add mint oil to taste and stir thoroughly to combine
 - Spread the ganache into a hotel pan and cool.
 - Pipe into prepared molded shells
 - Let ganache crystallize before sealing

Adapted from: "Chocolates & Confections" by Peter P. Greweling, p. 134



Chocolate and Spice Pairings

From: "Making Artisan Chocolates" by Andrew Garrison Shotts, p. 61

	Dark Chocolate	Milk Chocolate	White Chocolate	Berries	Caramel	Citrus	Peanut Butter	Pineapple	Praline	Tea
Black Pepper	Yes	Yes	No	Yes	No	No	No	Yes	No	No
Cardamom	No	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Cayenne Pepper	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	No
Chile Pepper/Oil	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No
Cinnamon	No	Yes	Yes	No	Yes	No	No	No	Yes	No
Cloves	No	Yes	Yes	Yes	No	No	No	Yes	No	Yes
Coriander	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes
Curry	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No
Ginger	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Nutmeg	No	Yes	Yes	No	Yes	No	No	No	Yes	No
Wasabi	Yes	Yes	No	Yes	No	Yes	No	Yes	No	No
White Pepper	No	Yes	Yes	No	No	No	No	Yes	No	No



Chai Tigers

Yield: approximately 60 pieces

- 90g heavy cream
- 5g chai tea blend
- ½ vanilla bean, scraped
- Add'l cream as needed
- 30g glucose syrup
- 230g milk chocolate, chopped
- 20g butter, soft
- Place the chocolate in a medium sized bowl and set aside
- Combine cream vanilla, & chai tea in small saucepan and heat to a boil
- Turn off the heat, cover, and let steep for 5 minutes
- Strain the cream and return to a pot, squeezing the tea to extract the maximum amount of liquid
- Add cream to return the pot to the original weight of cream
- Add glucose to the cream and bring to a boil
- Pour hot cream over chocolate and stir slowly to form the ganache
- When the ganache has cooled to 95F (35C), add the butter. Stir to combine.
- Spread the ganache into a hotel pan and cool.
- Pipe into prepared molded shells
- Let ganache crystallize before sealing

From: "Chocolates & Confections" by Peter P. Greweling, p. 106



Ginger Lemon Ganache

Yield: unknown

- 200g heavy cream
- 7g grated ginger
- ¼ zest of lemon
- 50g invert sugar or honey
- 150g milk chocolate, tempered
- 150g dark chocolate, tempered
- 37g butter, soft
- Combine the cream, ginger, and zest in a small saucepan and bring to a boil
- Remove from heat, cover, and let steep for 5 minutes
- Strain the cream through a seive onto the tempered chocolates
- Add the invert sugar or honey to the mixture
- Add the butter and emulsify with a stick blender or food processor
- Pour into a 3/8" frame of appropriate size and allow to crystallize
- Cut into pieces and enrobe

From: "Fine Chocolates" course materials by Jean-Pierre Wybauw



Cream Basil Ganache

Yield: unknown

- 275g heavy cream
- 60g corn syrup or glucose
- Dried and powdered basil
- 575g milk chocolate, chopped
- 25g butter, soft
- 25g invert sugar
- Combine the cream and glucose in a small saucepan and bring to a boil
- Remove from heat, add basil, cover, and let steep for 5 minutes
- Strain the cream through a sieve onto the chocolate
- Add the invert sugar and then the butter, stirring to combine
- Allow the ganache to cool and prepare molded shells
- Fill the shells with the cooled ganache and allow to crystallize
- Cap the filled shells

From: "Fine Chocolates – Great Experience" by Jean-Pierre Wybauw, p. 156



Chocolate and Beer Pairings

From: "Making Artisan Chocolates" by Andrew Garrison Shotts, p. 74

	Guinness Stout	Lambic Belgian Raspberry Beer	Hoegaarden	Leffe	Old Speckled Hen	Red Hook Nut Brown Ale	Samuel Smith's Oatmeal Stout
Milk chocolates infused with lemon and/or citrus fillings	■						
Dark chocolates and milk chocolates with nut praline centers		■					
Dark, milk, or white chocolates whose fillings are flavored with red fruits			■				
White and milk chocolates whose fillings are flavored with red fruits and nut pralines				■			
Dark chocolates filled with raspberry and other red fruits					■		
White, milk, or dark chocolates filled with hazelnut pralines						■	
Milk and semisweet chocolates with vanilla bean flavored centers							■



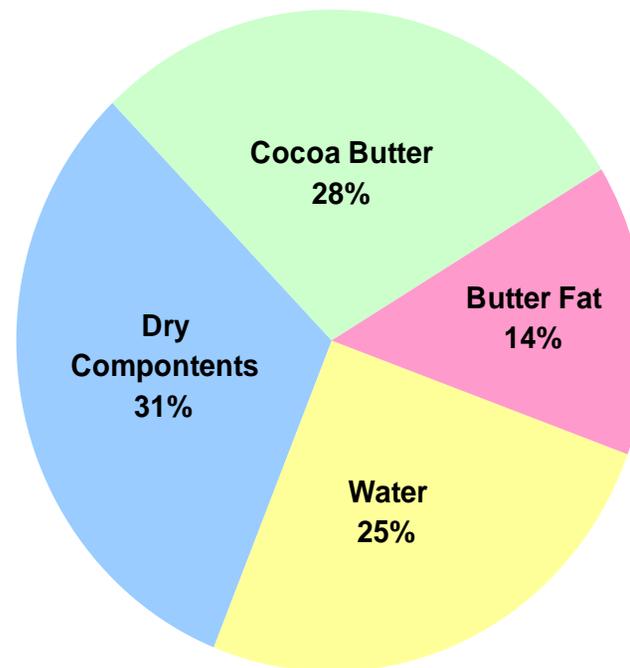
A Few Notes on Ganache Theory

Recollections and Notes from My
Class with J. P. Wybauw



Ganache

- Ganache = chocolate + flavoring + optional fat + optional sugar(s)
- Ganache is a water/fat emulsion
 - The dry components help emulsify the fat into the water
 - Approximately 55% of “cocoa mass” is cacao butter
- Chef Wybauw states that his “perfect” ganache is 1:1; 1000g chocolate + 1000g cream
 - Too soft for even for molded bon bons.
- Firm ganache – 1.5:1, 1500g chocolate + 1000g cream
- Soft ganache – 1.2:1, 1200g chocolate + 1000g cream
 - Soft but will set and can be cut
- All of these are fine for their purpose but have the same problem – shelf life





Shelf Life & Water Activity

- Cream is typically 35% - 40% “fat”. This means that the rest, 65% - 60% is water.
 - Water that is not “bound” to something is free for consumption by microbes, bacteria, & fungi.
- Our objective is to create a product that
 - Tastes good
 - Won’t make our customers sick
 - Has a useful shelf life
 - We don’t always WANT the LONGEST shelf life
 - “Commercial” products NEED very long shelf life due to lag between production, purchase, and consumption



Extending Shelf Life

- Reduce the “unbound” water content
 - Reduce the amount of water to start
 - Add something to “bind” the free water
- Butter contains approximately 17% water
- Alcohol can substitute for water
 - Products 1% alcohol by weight can hold for up to 1 year
- Sugars “bind” free water



Sugars

- Widely considered the best way to extend shelf life.
 - The smaller the sugar molecule, the better it will bind the water
 - Salts will also bind water and will reduce sweetness
- Objective (not rule) is to saturate water with 75% sugars
- Sucrose (table sugar) is the “standard” measure of sweetness = 100
- Invert Sugar = 125
 - Binds better to water and helps maintain a “softer” texture
- Glucose = 75
 - Retards crystallization of sucrose
- Sorbitol = 55
 - Is a polyol which can have a laxative effect in large quantities
 - Produced commercially in liquid and crystalline forms
 - Liquid = 5x Crystalline
- Maltodextrin = 0
 - Can bring a “starchy” flavor



Crafting a Ganache

	1	2	3	4	5	6
Chocolate	1000g	1200g ¹	1200g	1200g	1250g ⁶	1250g
Cream	1000g	800g ²	800g	800g	800g	800g
Butter		100g ³	100g	100g	100g	100g
Glucose			100g ⁴	100g	100g	100g
Invert				100g ⁵	100g	100g
Sorbitol					50g ⁷	50g
Alcohol						50g ⁸



Notes: Crafting a Ganache

1. Adding more chocolate to achieve firmer texture
2. Reducing cream by 200g also reduces water by 130g
3. Adding butter increases fat content and flavor without adding back all the water of the missing cream
4. Adding glucose binds with water but not as sweet as sucrose. Also helps prevent crystallization.
5. Adding invert sugar continues to bind “excess” water and helps soften the texture
6. Add some additional chocolate to rebalance flavor
7. Sorbitol further binds the water to extend shelf life without adding much additional sweetness
8. Alcohol adds flavor, “thins” texture slightly without adding water, and inhibits microbial/fungal growth



Why and When?

- Not necessary to do all of these with every ganache!
- If you're unsure how to start from "scratch", use a formula you currently know as a "template" and adjust.
- Choose additives based on your objective
 - We don't all have the same shelf life goals
 - Is flavor more important than shelf life?
 - How quickly do you sell/consume product?
 - How long should consumers have to keep?
- Do consumers have issues with alcohols?
 - e.g. Muslim consumers have religious objections to alcohol.
- What is more important to YOU as an artisan?