

Gelato

**Welcome to the
A-B-C Gelato Training**



自創性的義大利冰淇淋 The Artisan Gelato

Gelato

義式冰淇淋是將多種材料混合後，由液狀轉變為濃稠狀再透過同時冷卻與攪拌而製成的冰淇淋

Gelato is a mix of ingredients, that changes from liquid to creamy going through freezing and stirring process.



The equipment for production設備

Gelato

PASTEURIZER 高溫殺菌法

Divide the pasteurizing process into two types:

可分為二方法

- HIGH goes up to 85°C and back to 4°C
- 高溫法 上昇到85°C再降至4°C
- LOW goes up to 65°C and back to 4°C
- 低溫法 上昇到65°C再降至4°C

- BENEFITS優點**
- reducing bacterias 細菌的減少
 - high quality gelato mix 得到較高品質的冰淇淋溶液
 - ripen the mix of 4°C for 6/8 hours 在4°C成熟約6/8小時

MANUFACTURING:製造

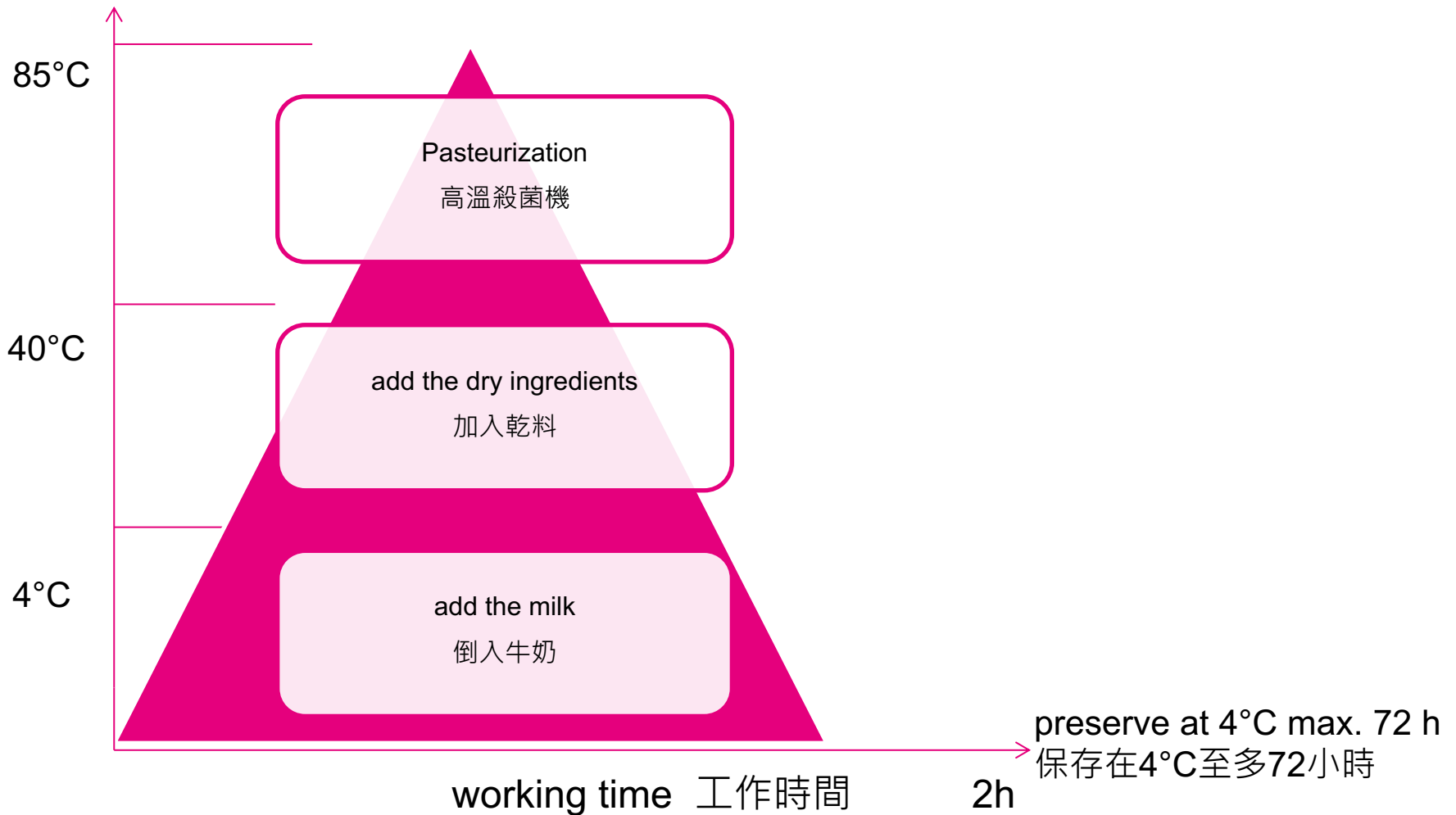
1. fill in milk and heat up to 40°C 先將牛奶加熱至40°C
2. mix the dry ingredients and put it into the pasteurizer 再將所有的乾料倒入殺菌機
3. reach 85°C 加熱至85°C
4. cool down to 4°C 冷卻至4°C



The pasteurization 高溫殺菌

Gelato

溫度 Temperature in °C



Batch Freezer批少量冷凍

Gelato

- allows the liquid mix to become gelato through freezing and stirring
- 使溶液透過冷卻與攪拌成為冰淇淋
- responsible for the **OVERRUN**, that makes Gelato creamy
- 打發使冰淇淋更滑順
- is usually cooled with water
- 與水一起冷卻



Freezer冷凍

Gelato

Blast freezer製冰溫度

- ➔ the blast freezer works at $-30^{\circ}\text{C}/-40^{\circ}\text{C}$ to support the gelato micro crystallization and makes structure stronger
- 槳狀製冰機-在 $-30^{\circ}\text{C}/-40^{\circ}\text{C}$ 時使溶液結晶並變硬



Freezer保存溫度

- ➔
- for the preservation during night ($-18^{\circ}\text{C}/-20^{\circ}\text{C}$)
 - 隔夜保存溫度($-18^{\circ}\text{C}/-20^{\circ}\text{C}$)

 - for the preservation and the direct selling ($-15^{\circ}\text{C}/-17^{\circ}\text{C}$)
 - 保存與同時販賣 ($-15^{\circ}\text{C}/-17^{\circ}\text{C}$)



Show cabinet展示櫃

Gelato

The show cabinet is used to expose the ready Gelato and sell it from the ice cream shop to Gelato consumers and lovers.

展示櫃將義大利冰淇淋提供給消費者選購

Very important is to check the correct temperature on the display and in the cabinet
隨時檢查展示櫃的正確溫度是非常重要的

TEMPATURE溫度: min.最低 -13°C

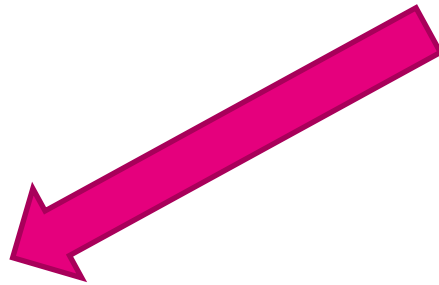
max.最高 - 17°C



GELATO AND SORBET 吉拉朵與雪碧

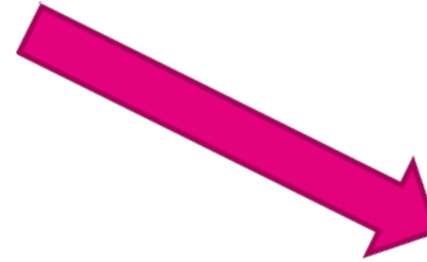
Gelato

There are two types of Gelato in the market
義大利冰淇淋有兩種



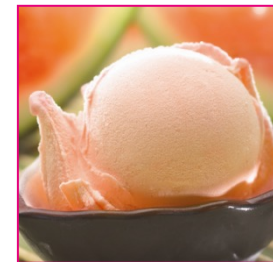
Dairy Gelato 乳脂冰淇淋

- contains milk and its components, fat and lactose
包含牛奶、奶粉、脂肪或乳糖



Sorbet 水果冰淇淋

- just with water and minimum 30% fruit content
只含水與30%的水果



Gelato components 元素

Gelato

- WATER 水
- SUGARS 糖
- FATS 脂肪
- SOLID MILK PARTS 牛奶
- OTHER SOLIDS 其它固型物
- AIR 空氣



Water水

Gelato



- used purely for the sorbet gelato or by the MILK
- 只用於水果冰淇淋或牛奶
(milk contains mainly 87-88% of water)
- (牛奶包含87%-88%的水)

Function in the gelato 在冰淇淋的功能

- ❖ melts all the dry ingredients (sugar, product, fats, milk powder)
溶化所有的乾料(糖、安定劑、脂肪、奶粉)
- ❖ freezes my ready mix
冷凍所有的冰淇淋料
- ❖ is the main ingredient in the Gelato (60-70%)
是主要的材料(60-70%)

Sugars糖

Gelato

Sweetness
糖份



gives my Gelato the perfect sweetness and helps my flavour to be stronger
給予冰淇淋完美的甜味並增加風味

Anti freezing power
冰淇淋粉

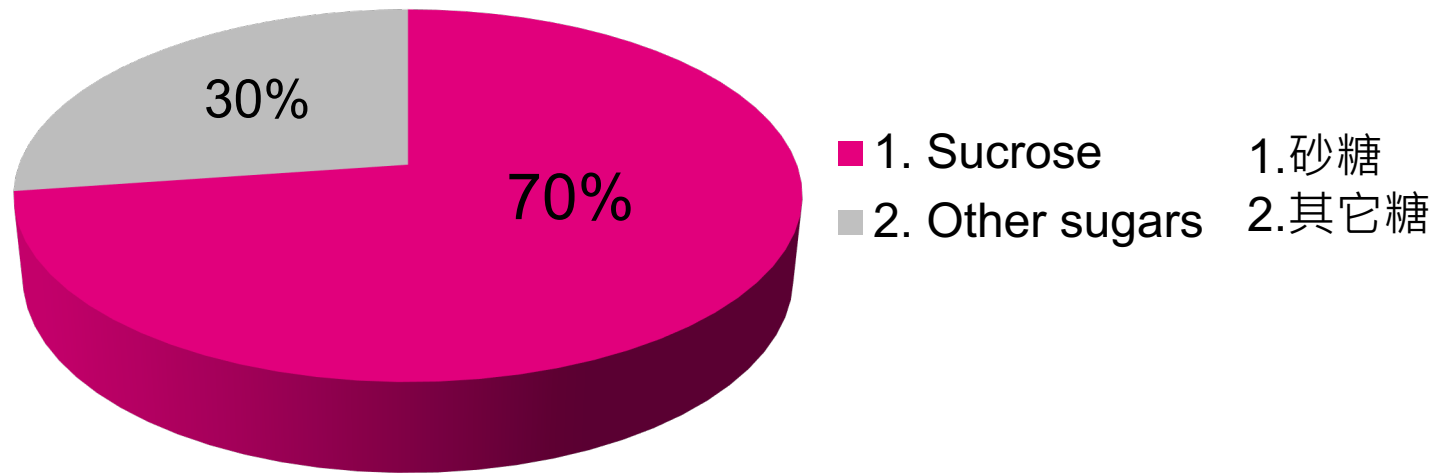


helps to have more structure in my Gelato and to get a more hard or soft result
幫助增加冰淇淋的組織和增強軟硬度



Ratio between sugars 糖的比例

Gelator



Type of sugars 糖的種類

% of other sugars to use 使用比例

- DEXTROSE 葡萄糖粉 5%-25%
- DRY GLUCOSE 單葡萄糖粉 5%-30%
- INVERT SUGAR 轉化糖 5%-15%
- LIQUID GLUCOSE 液態葡萄糖 5%-30%

Fats 脂肪

Gelato

Animal fats 動物性脂肪

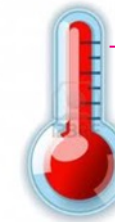
- Milk 牛奶
- dairy cream 鮮奶油
- Butter 奶油



melting point 28°-30°C
溶點

Vegetable fats 植物性脂肪

- coconut oil 椰子油
- palm oil 棕櫚油
- Margarine 瑪琪琳



melting point 37°-39°C
溶點

Functions in the Gelato 油的功能

- ❖ Creaminess 更滑順
- ❖ flavour/ taste 增加
- ❖ influencing the Gelato melting point 影響冰淇淋的融點

Solid milk parts 牛奶固形物 (S.M.P) *Gelato*

Solid milk parts are everything, that is not liquid or fat in your dairy cream or milk. 牛奶固形物取代一切(不含水與脂肪)

DAIRY MILK 牛奶



Water 水	87.5%
S.M.P.	9%
Fat 脂肪	3.5%

DAIRY CREAM 鮮奶油



Water 水	59%
S.M.P.	6%
Fat 脂肪	35%

S.M.P. = Lactose 乳糖
Proteins 蛋白質
Salts 鹽
Minerals 礦物質

SKIMMED MILK POWDER 多脂奶粉



Water 水	0%
S.M.P.	99%
Fat 脂肪	1%

WHOLE MILK POWDER 全脂奶粉



Water 水	0%
S.M.P.	74%
Fat 脂肪	26%

VEGETABLE CREAM 植物奶油



Water 水	62%
S.M.P.	6%
Fat 脂肪	33%

Function in the Gelato
功能



texture, structure 組織與結構



fullness, volume (overrun) 增加容量

Other solidse其它固形物

Gelato

Food stabilizers
食物安定劑



Flavours
風味



Fibers
纖維



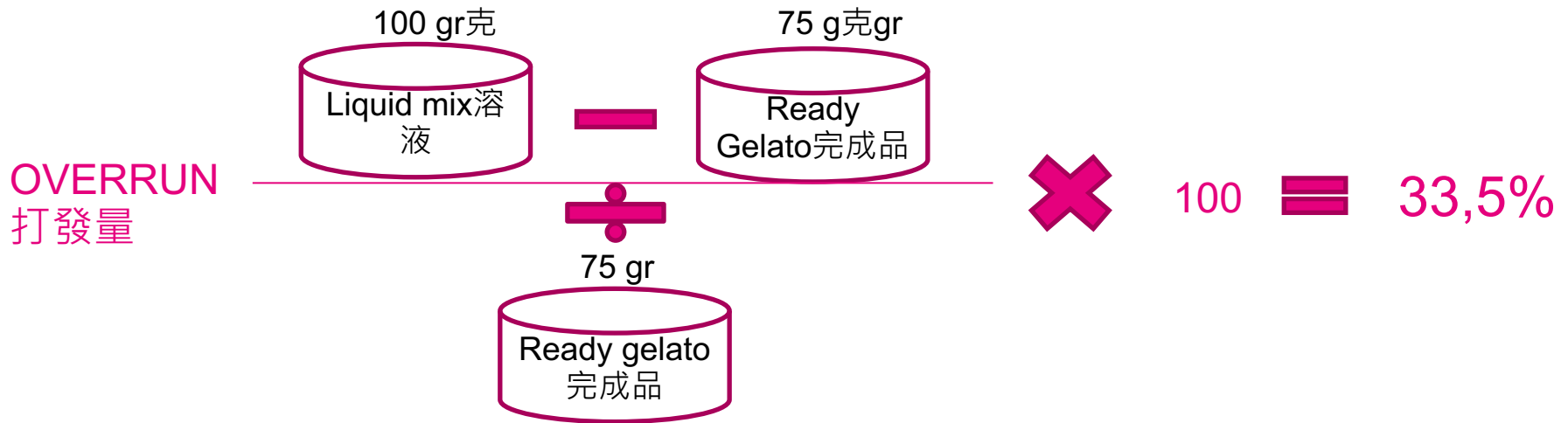
Function in the Gelato功能

- ❖ Creaminess 更滑順細膩
- ❖ Spreadability 更延展
- ❖ Overrun 打發量增加
- ❖ Taste 口感更好
- ❖ frame, Gelato “body”, 更易塑型

Air (overrun)空氣

Gelato

The air content of Gelato is going to incorporate itself alone, through the freezing and stirring process. I can calculate the OVERRUN with an easy formula: 透過冷凍與攪拌的過程，讓冰淇淋與空氣結合



Overrun values 打發值 : Dairy Gelato 乳脂冰淇淋 25-38%

Sorbet 水果冰淇淋 15-25%

Balance % in the milk Gelato 乳脂冰淇淋的比例平衡

Component	Min.最小值	Max.最大值
Water水	62%	66%
Sugar糖	16%	20%
Fat脂肪	5%	8%
S.M.P.牛奶固形物	9%	12%
Other 其它	0.3%	5%
Total solids總固形物	35%	38%

Balance % in the fruit Gelato 水果冰淇淋的比例平衡

Gelato

Component	Min.	Max.
Water水	67%	72%
Sugar糖	25%	29%
Fat脂肪	-	-
S.M.P.牛奶固形物	-	-
Other其它	1%	15%
Total solids總固形物	28%	33%

Good to know about % 不可不知的比例平衡

The values, we have seen, are standard parameters that we, master Gelatieri, tried and tried to give you a support and knowledge for selling and to backup better your clients and friends. 以下是我們經過多種測試後，所得到的結果

But what happens, if this value are not followed 不在比例平衡的結果

Component	Min	Max
Water水	< 62% sandy and hard 變碎冰砂	> 66% cold, tough更硬更冷
Sugar糖	< 16% frozen and not good structure 組織並不完美	> 20% Melted 更易融化
Fat脂肪	< 5% greasy and less overrun 太油膩和打發量更少	> 8% no quality and taste 沒有品質和口感
S.M.P.牛奶固形物	< 9% Sandy 太砂	> 12% not thickened沒有稠狀
Other 其它	< 0.3% low quality低品質	> 5% low quality低品質

Thank you for your
attention! 謝謝

